THE TAMIL NADU

DR.M.G.R.MEDICAL UNIVERSITY

CHENNAI

NON –TRAUMATIC DUODENAL ULCER PERFORATIONS at K.A.P.V Government Medical College & A.G.M.Government Hospital, Trichy.

Dissertation submitted for

M.S.General Surgery [Branch-1], March 2010

CERTIFICATE

This is to certify that the dissertation entitled “NON- TRAUMATIC DUODENAL ULCER PERFORATIONS” is the bonafide original work of Dr. S. PALANISAMY in partial fulfillment of the requirements of M.S General Surgery [Branch-1] examination of THE TAMIL NADU DR.M.G.R MEDICAL UNIVERSITY to be held in March 2010.

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I owe my sincere thanks to all the patients for their kind co-operation in this study.

DECLARATION

I Dr. S, Palanisamy solemnly declare that dissertation titled, “NON-TRAUMATIC DUODENAL ULCER PERFORATIONS” is a bonafide work done by me at Annal Gandhi Memorial Government Hospital during 2007 - 2009 under the guidance and supervision of my professor ,

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The dissertation is submitted to THE TAMILNADU Dr.M.G.R.Medical University, towards the partial fulfillment of requirement for the award of M.S Degree (Branch-I) in General Surgery.

Place: Tiruchirappalli

Date Dr.S. PALANISAMY

CONTENTS

INTRODUCTION

Despite the introduction of new drugs and various diagnostic tool, the number of patients with perforation of peptic ulcer remain stable in some countries whereas in some countries it is increasing. There are countries where rates of this complication show different trends depending on age and sex.

The mortality has been reduced now a days due to early medical attention, quick diagnosis and prompt surgical management. But no single method of treatment is appropriate for every patient with perforated duodenal ulcer.

There are different geographical trends in the duodenal ulcer disease and ulcer perforation. There are also great variations in the type of patients presenting with perforation in different parts of the world and management strategies also differ.

The study was conducted with the aim of analyzing various factors which are of immense value in the diagnosis and management of the disease.

The Present study was also carried out to evaluate the age, sex, seasonal periodicity, ulcer size, morbidity, mortality and further follow- up of the patients and anti H.pylori therapy.

HISTORICAL REVIEW

Acute perforation of peptic ulcer is relatively a common complication. It was rarely reported 100 years ago. There is progressive increase in its incidence during the last few decades in India.

In the year 1944, Illingworth has shown from his 20 years study from 1924 to 1944, a fivefold increase in the incidence of gastrointestinal perforations. Warren Cole assessed the occurrence of perforations in chronic duodenal ulcer and in chronic gastric ulcer was 20.5%.

Rawlinson was credited with the first published report in 1727 of a case of perforated gastric ulcer. The first published report of a perforated duodenal ulcer was by Hamburger in 1946.

Heusner was the first to close a perforated duodenal ulcer successfully, Simple closure of a perforated ulcer was done in 1892 by kriege.

Cellen Jones in 1929 described the most widely used method of closing a perforation with a live omental patch, often wrongly erotized to Roscoe Graham.

Moore and colleagues in 1950 found that recurrence of ulcer symptoms after repair of a perforation carried a bad prognosis in their 10 year follow up analysis of 1000 ulcer patients.

Collier and Pain in 1985 reported that 45% of the patients aged 15 years or more presenting with perforated ulcer had consumed NSAIDs.

Watkint et al. in 1984 found that 25% of the patients in the Oxford area were consuming NSAIDS, and 4.8% were taking steroids at the time of perforation.

Hamilton and Harbrech in 1967 and Khan and Ralston in 1970 reported that operative mortality of truncal vagotomy with PGJ is about 1%.

Jordan, De Bakey and Duncan in 1974 reported 535 emergency partial gastrectomies with an operative mortality of 2.2%.

J.S Pierandozzi, B.B Hin Shaw and O.E Stafford in 1960 treated perforated peptic ulcer by vagotomy and pyloroplasty.

Laparoscopic treatment was reported in the year 1990.

Mouret et al. found that laparoscopic management is good because of avoiding large incision, decrease in the wound infection

and good peritoneal lavage. He treated 4 0ut of 5 patients successfully.

In 1997 John Wayman and Simon A Raimes found that simple closure treatment is safe and effective in long term, when combined with H.Pylori eradication and pharmacological suppression.

AIM OF STUDY

1. To evaluate the age and sex incidence, socioeconomic status, seasonal trends, duration of signs and symptoms, associations with personal habits like alcohol and smoking, NSAIDs, dietary habits and other diseases in region like ours with particular reference to the prognosis of the patients with perforated duodenal ulcer.

2. To illustrate the various types of clinical presentation.

3. To study the methods of management in our hospital and to evaluate its outcome.

4. To study the diagnostic procedures in cases of perforated peptic ulcer.

5. To study the association of NSAIDs with perforated peptic ulcer.

6. To assess the incidence of post operative complications.

7. Long term review for;

- Recurrence of ulcer perforation.
- Post operative complications.
- Anti H.pylori therapy.

MATERIALS AND METHODS

Materials:

Clinical Evaluation:

Age	Dietary habits
Sex	Clinical features
Socio Ec. Status	Time of perforation
Alcohol, smoking	Duration of perforation
NSAIDS, Steroids	
Previous ulcer History	

INVESTIGATIONS:

Radiology

Bl.Sugar, Bl.Urea Sr. Creatinine, Sr. Electrolytes

Bl.Grouping

ECG

OPERATIVE MANAGEMENT:

Operative findings

Peritoneal Lavage and its role

Conservative line of Management.

FOLLOW UP

Morbidity

Mortality

Anti H.pylori therapy – Recurrence.

All the patients who were suspected to have duodenal perforation were admitted in the general surgical wards at AGMGH TRICHY. from June 2007 to November 2009. They were examined thoroughly and findings tabulated, operative reports reviewed and the following data were collected from the reports; Age and sex of patients, location of ulcer, symptoms and signs of perforation routine investigations like Hb%, Blood urea, Blood sugar, serum creatinine, blood grouping, serum electrolytes estimation, plain X ray abdomen in the erect posture , left lateral decubitus and abdominal paracentesis.

STANDARD DRUG REGIMEN USED

Cefotaxime, Gentamicin, Metronidazole and Ranitidine were the standard drugs used.

SCOPE OF STUDY

This study was undertaken with a view to analyses the different modes of presentation, age and sex incidence, etiology, various managements adapted its outcome in patients with duodenal perforation and was compared with those of other studies.

ANATOMY

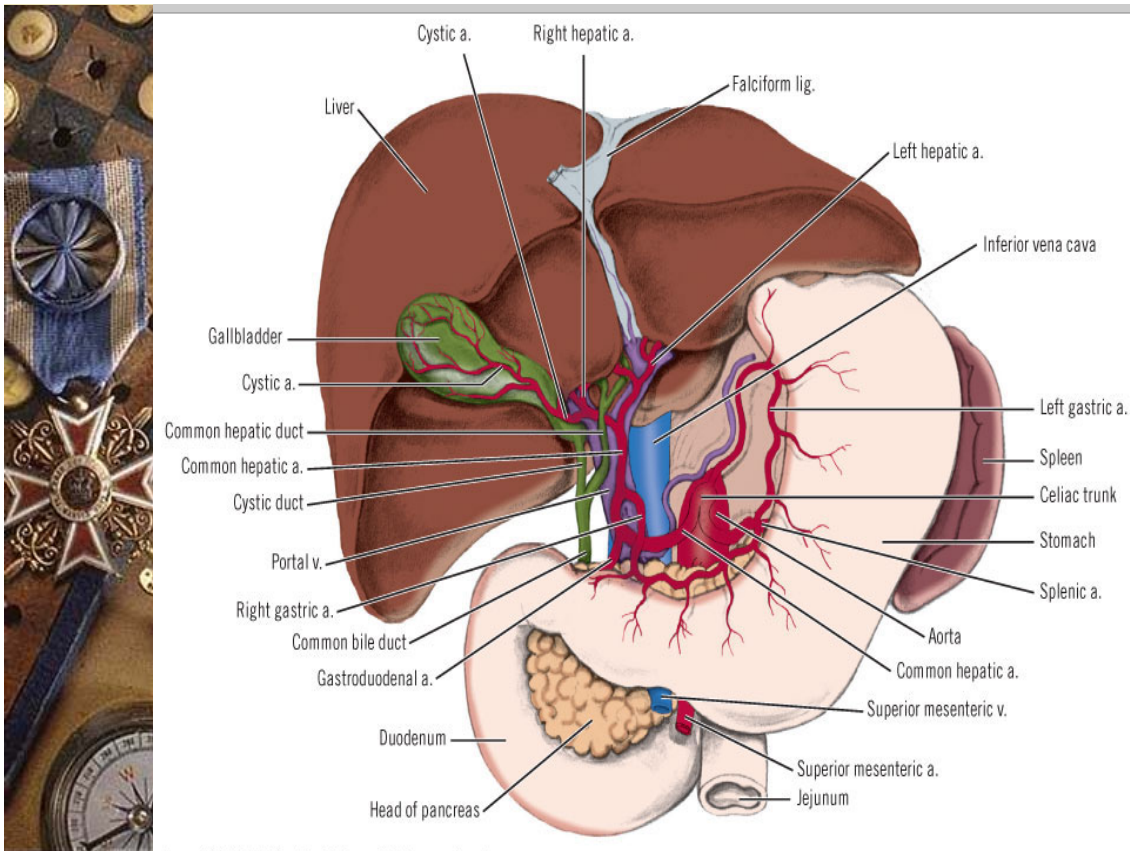
STOMACH

Stomach is a part of the embryonic foregut. It is an ovoid musculomembranous digestive pouch below the esophagus. The end which connects with esophagus is the cardiac end. The end that is continuous with the duodenum is the pyloric end. The stomach measures about 25 cm in length and 10cm in diameter. It has a capacity of 0.9 to 1.4 litres. The wall of the stomach consists of serosa, muscularis propria,submucosa and mucosa from outwards. The secretions of the stomach is gastric juice containing pepsin, mucus and Hcl.

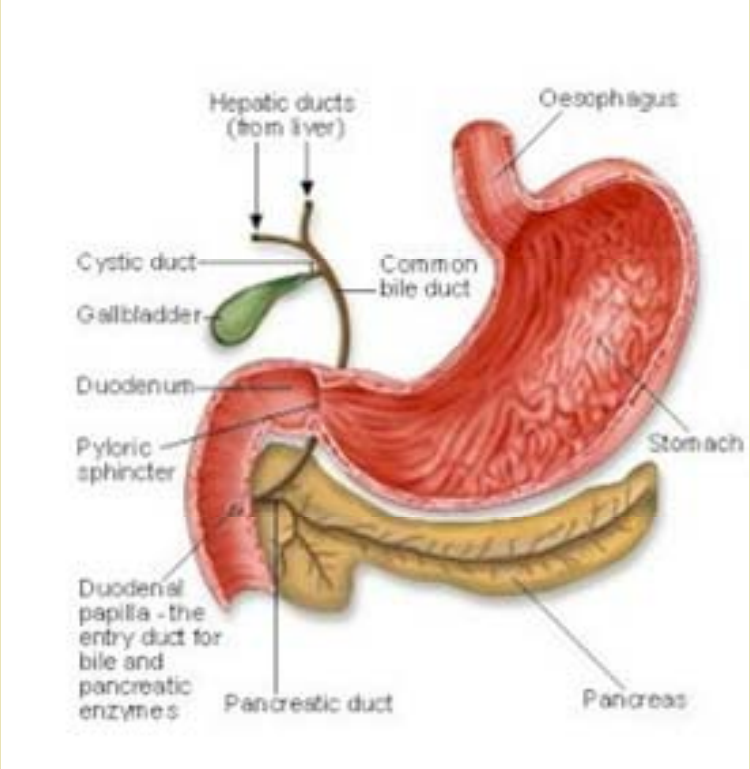
DUODENUM

The Duodenum is the first portion of the small intestine and forms a “C” shaped bend as it curves around the head of the pancreas and it descends to continue as the jejunum at the duodeno-jejunal flexure.In its course it receives bile and pancreatic secretions. Duodenal wall consists of serosa, muscularis propria, submucosa and mucosa with circular folds of kerkring. Muscularis propria which inturn consists of longitudinal, circular and oblique fibres. Duodenum is about 25 cm in length. It is the shortest, widest and most fixed part of the small intestine.

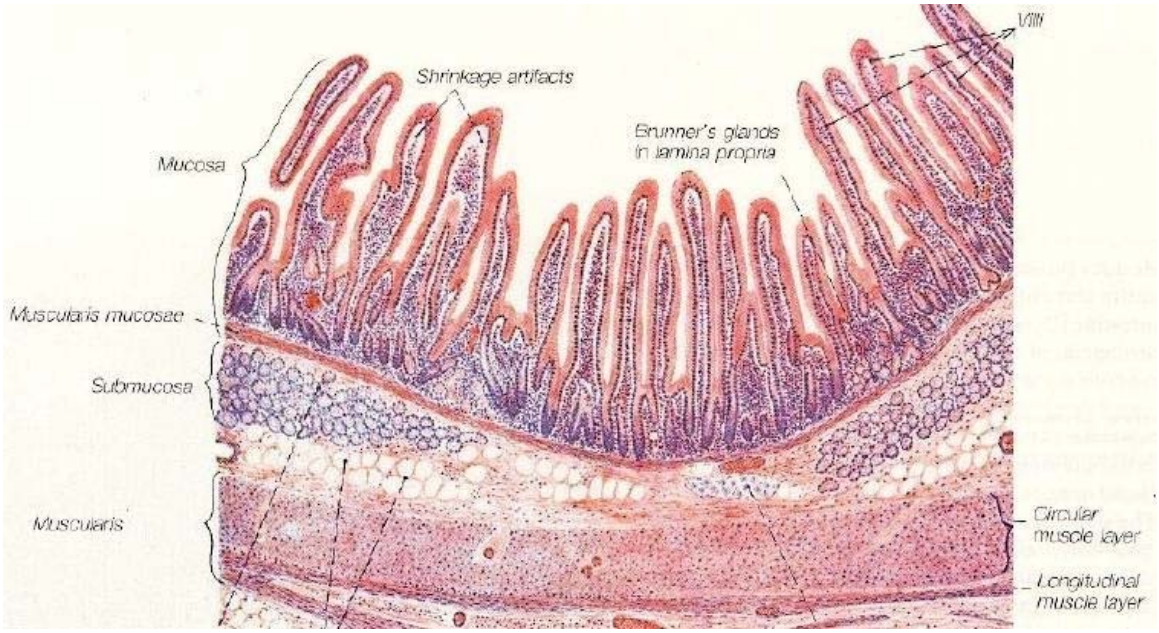
ANATOMY OF THE STOMACH AND DUODENUM



CROSS SECTION OF THE STOMACH AND DUODENUM



HISTOLOGY OF THE DUODENUM



PATHOGENESIS:

The most dramatic and dangerous complication of peptic ulcer disease is the abrupt extension by the ulcer through all coats of the intestinal wall, permitting the free escape of intra luminal contents into the peritoneal cavity. Usually death from peritonitis and septicaemia will occur unless the perforation is closed surgically or induced to seal off by intensive medical therapy.

Acute perforation occurs in 95% of chronic peptic ulcer and in 5% of acute ulcers. Ulcers in the anterior wall of the duodenum are more prone for perforation. Posterior ulcers often deeply penetrate into the substance of pancreas.

Perforating ulcers do not have any special feature that distinguish them from non-perforating ulcers.There is no evidence that patients with perforating ulcers have a higher gastric acid secretion.

There are 2 major factors responsible for peptic ulcer perforation. The first one is H.pylori. H.pylori is universally present in patients with gastric ulcer. It secretes toxins and induce mucosal

inflammation causing decreased mucosal integrity and predisposes to back diffusion of H+ ions(puddle formation)., leading to submucosal injury and ulcer formation. Another hypotheses is ammonia produced by the hydrolysis of urea by H.pylori urease, increases the pH of the mucous layer overlying the gastric epithelium. This causes increased gastrin which in turn increases gastric acid secretion and promotes duodenal ulcer formation. It can now be said that " No H.pylori, No gastritis , No ulcer". The eradication of H.pylori , has decreased the incidence of peptic ulcer complication.

The second factor is the recognition of the role of defect in angiogenesis. Angiogenesis is under the regulatory control of the peptide growth factor and plays a crucial role in the development of solid tumors. In peptic ulcers, basic fibroblast growth factor has recently been shown to stimulate angiogenesis and promote ulcer healing. This process may be evaluated therapeutically in the future as a mean for improving mucosal defense.

Other factors include NSAIDs, steroids, major burns, COPD and MODS.

The size of the perforated duodenal ulcer varies from 0.5 to 2.0cm and is usually smaller than perforated gastric ulcers. The

callous ulcer in the greater curvature is always malignant. Posterior ulcers of the stomach usually perforates superiorly in the region of the lesser curvature. Multiple perforations of the stomach are usually close together. The larger the perforation and older the patient, the higher is the mortality rate . The aperture is usually round, oval and variable in size.

Perforation is rapid due to sudden sloughing of the unsupported portion of the ulcer floor. Immediately after perforation chemical peritonitis supervenes. This lasts for 8 to 12 hours, then goes in for septic peritonitis. But if gastric contents are neutral or alkaline secondary to ingestion of alkaline drugs, septic peritonitis supervenes earlier.

Intestinal obstruction occurs in 36 to 48 hours after perforation. This is the paralytic stage of general peritonitis. The pus thus formed may track upwards or downwards to form sub phrenic or pelvic abscess respectively.

In acute type, the ulcer perforates and the general peritoneal cavity is flooded with gastrointestinal contents, whereas in the subacute type, only circumscribed area of peritoneal cavity is contaminated by leakage.

OPERATIVE PROCEDURES

The abdomen is usually opened by an upper midline incision/Right paramedian incision if perforation is suspected. In patients with perforation, gas and turbid bile stained fluid often escape as the peritoneum is incised. Free fluid is aspirated from the peritoneal cavity and the site of the perforation is established. The anterior aspect of the first part of the duodenum and distal stomach are inspected first. A retractor is inserted beneath the liver and the stomach is drawn and then grasping it with moist pack. Overlying omentum is gently peeled away by blunt dissection with a guaze swab. Flakes of creamy fibrin often adhere to the gut near the perforation and are useful guide to its location.

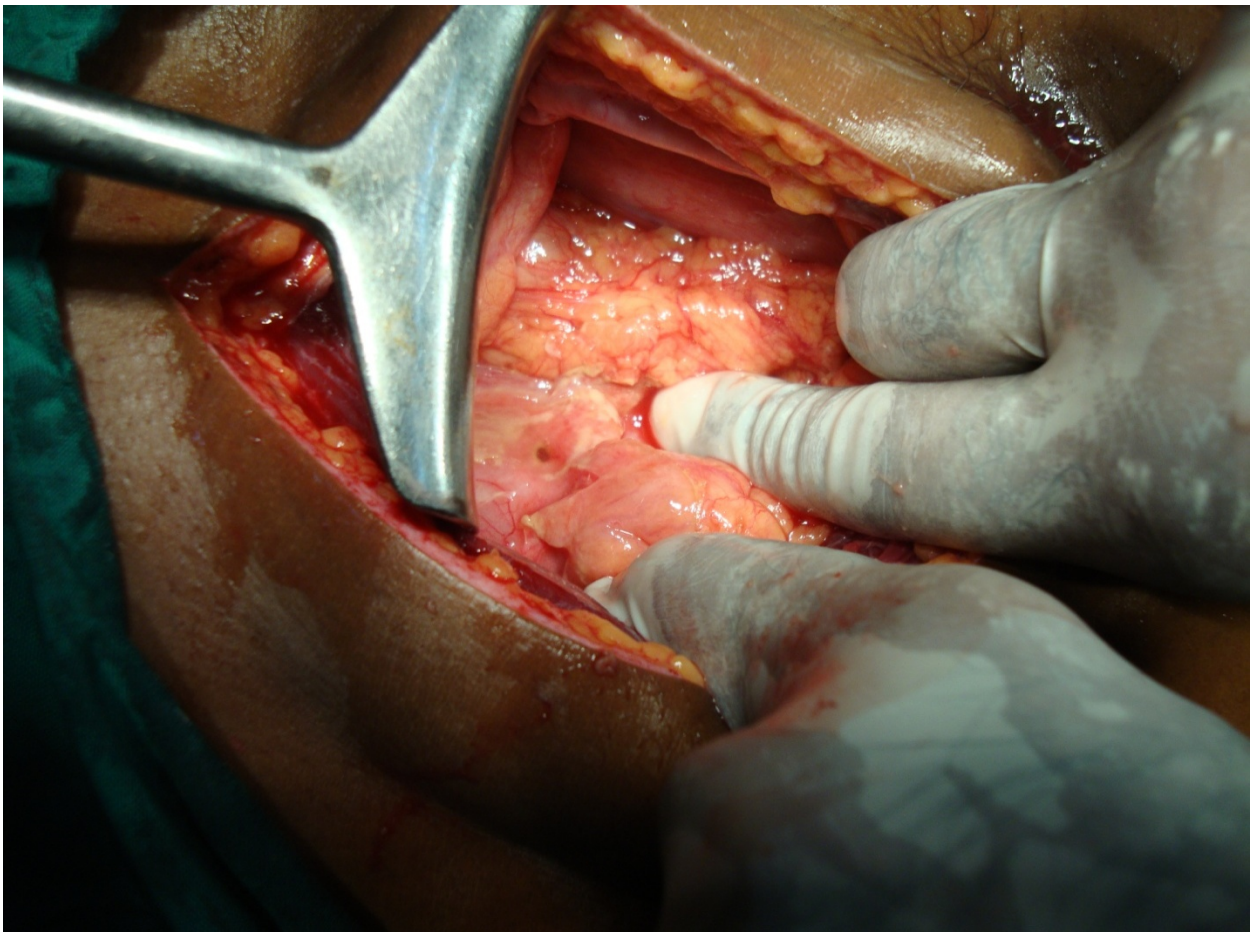
If perforation of the proximal duodenum or distal stomach is not apparent the remainder of the anterior aspect of the stomach and distal esophagus is inspected. If no perforation is found in the upper gastro intestinal tract, the small intestine, the colon and the rectum are inspected.

Simple closure is the quickest and most appropriate method of dealing with perforated duodenal ulcer. Retractors are arranged to

give the best possible access and any viscera which intrude are packed off. Closure is achieved by inserting three sutures of absorbable material – vicryl, which are passed through the entire thickness of the gutwall. The central suture which crosses the perforation is tied last so that it is less likely to cut off the edematous gutwall. The sutures are inserted in the long axis of the gut to avoid narrowing of the lumen. An additional layer of sero-muscular lembert sutures is not recommended. A tag of omentum is used to reinforce closure by taking it with the suture over the perforated site.If scarring makes pyloric duodenal obstruction inevitable after closure, pyloroplasty or gastroenterostomy may be unavoidable. Where the induration is so marked that suture tends to cut through, the perforation can be closed with omentum . Closure of the perforation is followed by meticulous peritoneal toilet. The subphrenic spaces, paracolic gutters and pelvis are cleared off the fluid by suction and by using large packs. Lavage is advisable and is carried out with warm saline. The abdomen is closed with drainage. H2 receptor antagonist should be given for 1 month starting at the time of perforation.

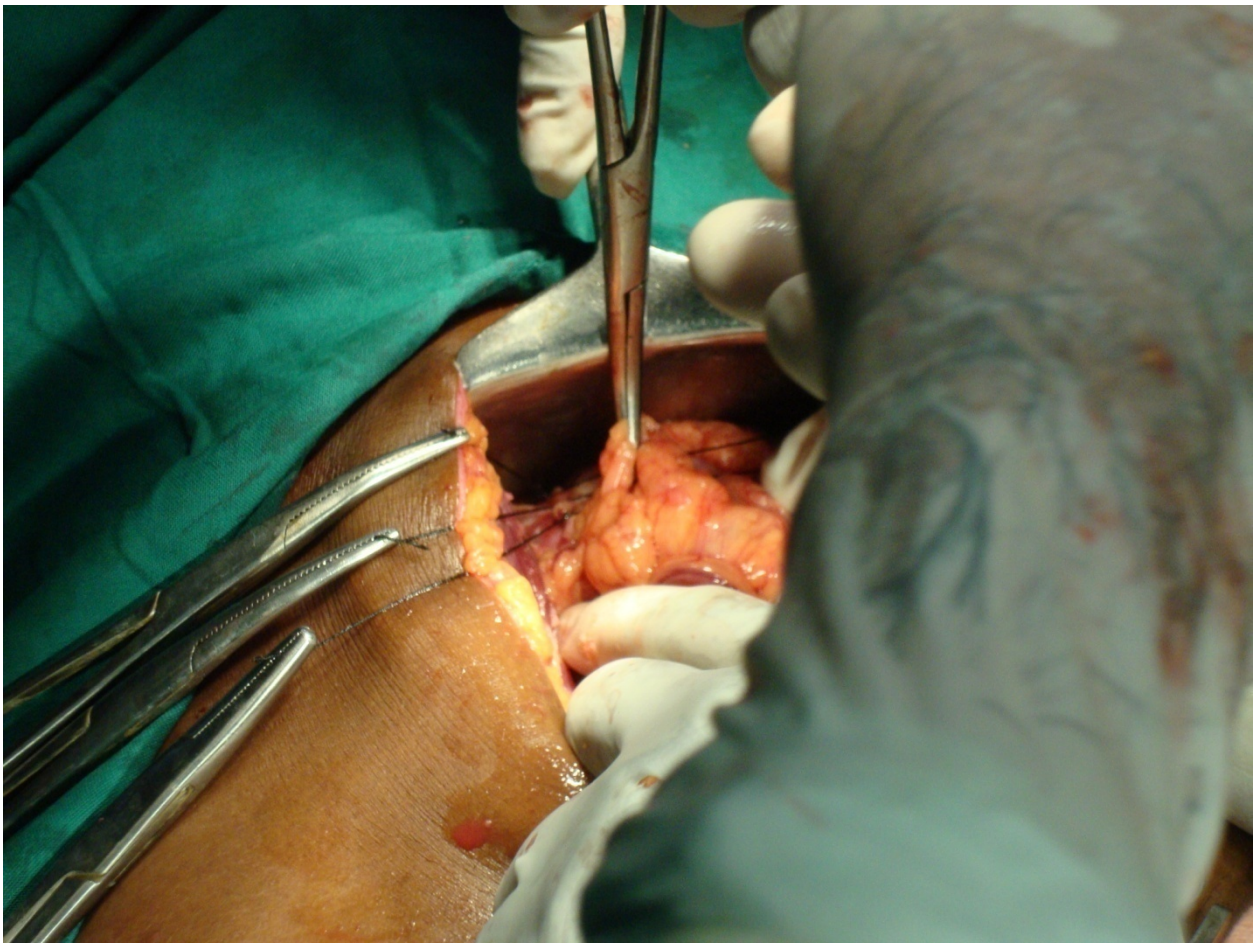
OPERATIVE PROCEDURE

RIGHT PAR AMEDIAN INCISION The role of emergency

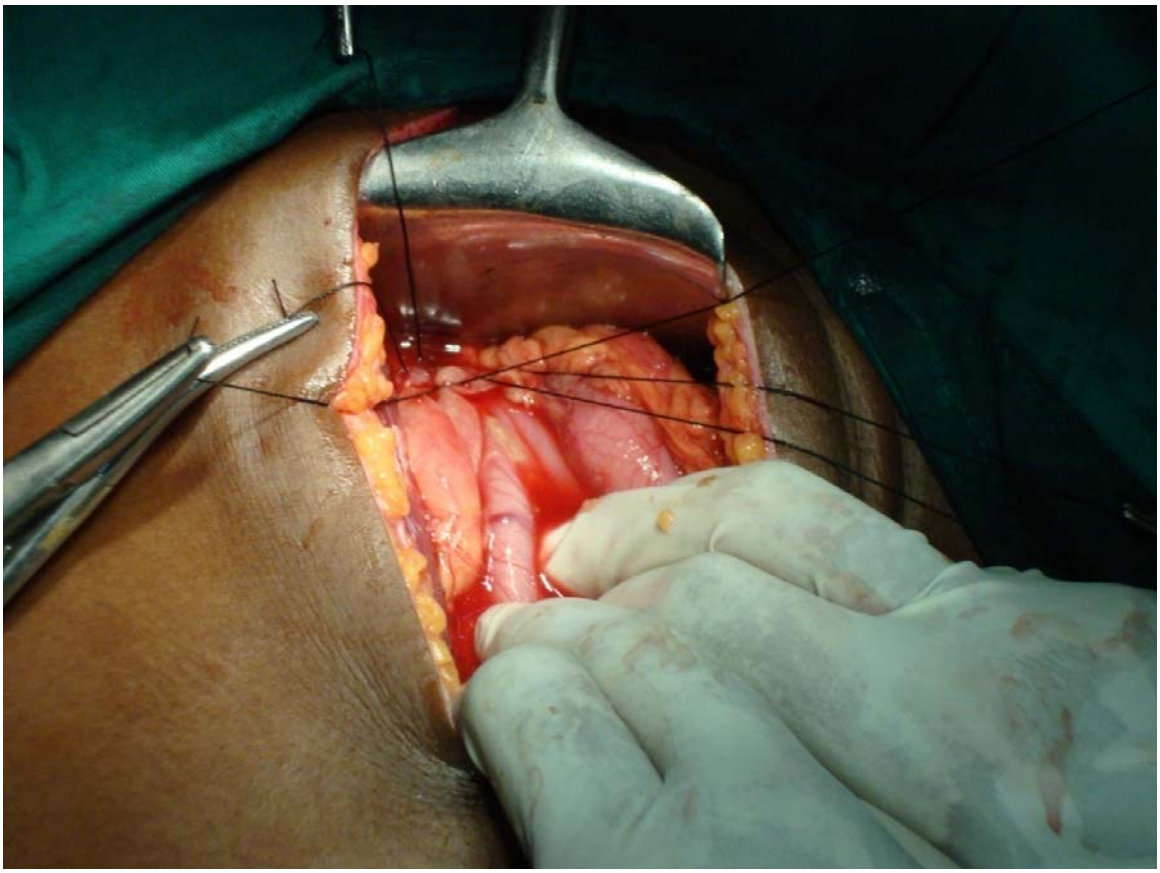


DUODENAL ULCER PERFORATION

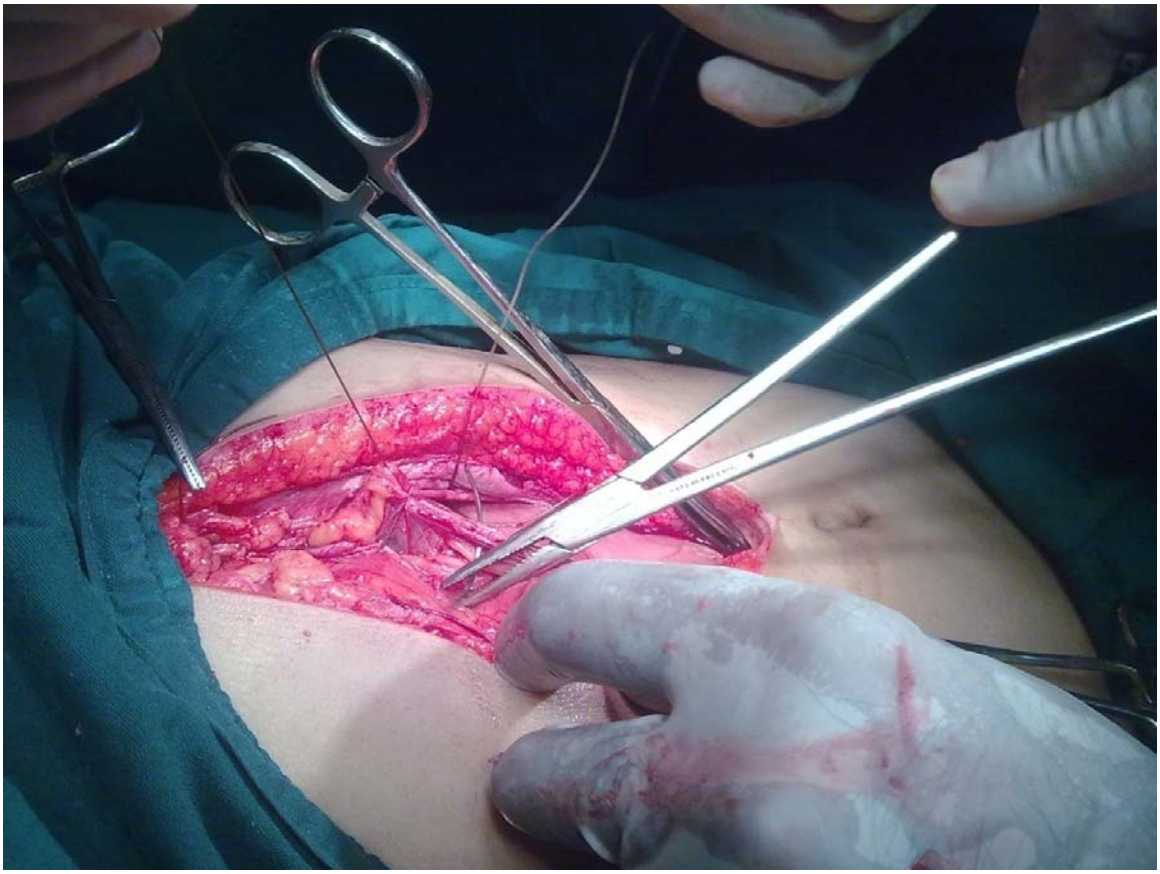
PERITONEAL FLUID ASPIRATION



LIVE OMENTAL PATCH



PERFORATION CLOSURE



ABDOMEN CLOSURE

DRAINAGE TUBE IN FLANK

ABDOMINAL CLOSURE OF UPPER MIDLINE INCISION

definitive ulcer surgery remains controversial. Medical treatment is more so effective that emergency definitive surgery is only indicated for those patients whose ulcer perforates whilst they are taking H2 receptor antagonist or proton pump inhibitors. In such patients definitive surgery is considered if; (a). Anaesthetic and surgical facilities are ideal. (b). the surgeon is experienced in definitive surgery. (c). the patients general condition is without any risk. (d). purulent peritonitis is not present.

The case for definitive surgery is strengthened:

1. The closure of stenosed duodenum or pylorus will cause obstruction.

2. When the patient has had a previous perforation treated by simple closure.

3. When the patient has a perforated gastric ulcer and malignancy is suspected.

4. When perforation and bleeding occur together.

The definitive operation usually advocated for a perforated duodenal pyloric or prepyloric ulcer is truncal vagotomy with drainage. The choice between pyloroplasty and gastroenterostomy is indicated by conditions prevailing in the pyloro duodenal area. Partial gastrectomy is no longer recommended.

Perforation of a gastric ulcer should always raise a suspicion of malignant ulceration particularly in the elderly. Under ideal circumstances, the preferred operation is partial gastrectomy including the ulcer with gastro duodenal anastomosis.

The advent of powerful acid suppressing agents has reawakened interest in the conservative management of the

perforated peptic ulcer. In the majority of patients, operation remains the treatment of choice and in selected situations conservative management should be considered.

Conservative management is indicated:

1. When the risk of general anesthesia is considered too great. For example conditions like Acute myocardial infarction, lobar pneumonia etc.

2. When appropriate surgical and anesthetic skills or equipment are not available.

3. In patients who have clinically sealed perforation at the time of presentation.

4. When Gastrograffin swallow shows no leakage of contrast.

Conservative therapy has the disadvantages that the site of perforation remains in doubt and the nature of the underlying condition remain uncertain.

Conservative management consists of continued nasogastric aspiration, nil by mouth, intravenous fluids, H2 receptor antagonist and sedation. Antibiotic is generally prescribed. Conservative therapy

is abandoned in favour of surgery if clinical deterioration suggests continued leakage and worsening patient.

HISTOLOGY

In peptic ulcer perforation there will be areas of fibrosis or scar identified in the region of ulcer. Superimposed on it there may be an acute inflammation in and around the area of perforation ranging from mild cellulitis with neutrophils as the dominant cells to an extreme response suggesting phlegmon.

Inflammed peritoneum loses its glistening appearance and becomes red and velvety. Flakes of fibrin appear and cause loops of intestine to become adherent to one another and to the parietal wall. There is an out pouring that soon becomes turbid; if localization occurs the turbid fluid becomes frank pus. The greater omentum by enveloping and becoming adherent to the inflamed structure often forms a substantial barrier to spread of infection.

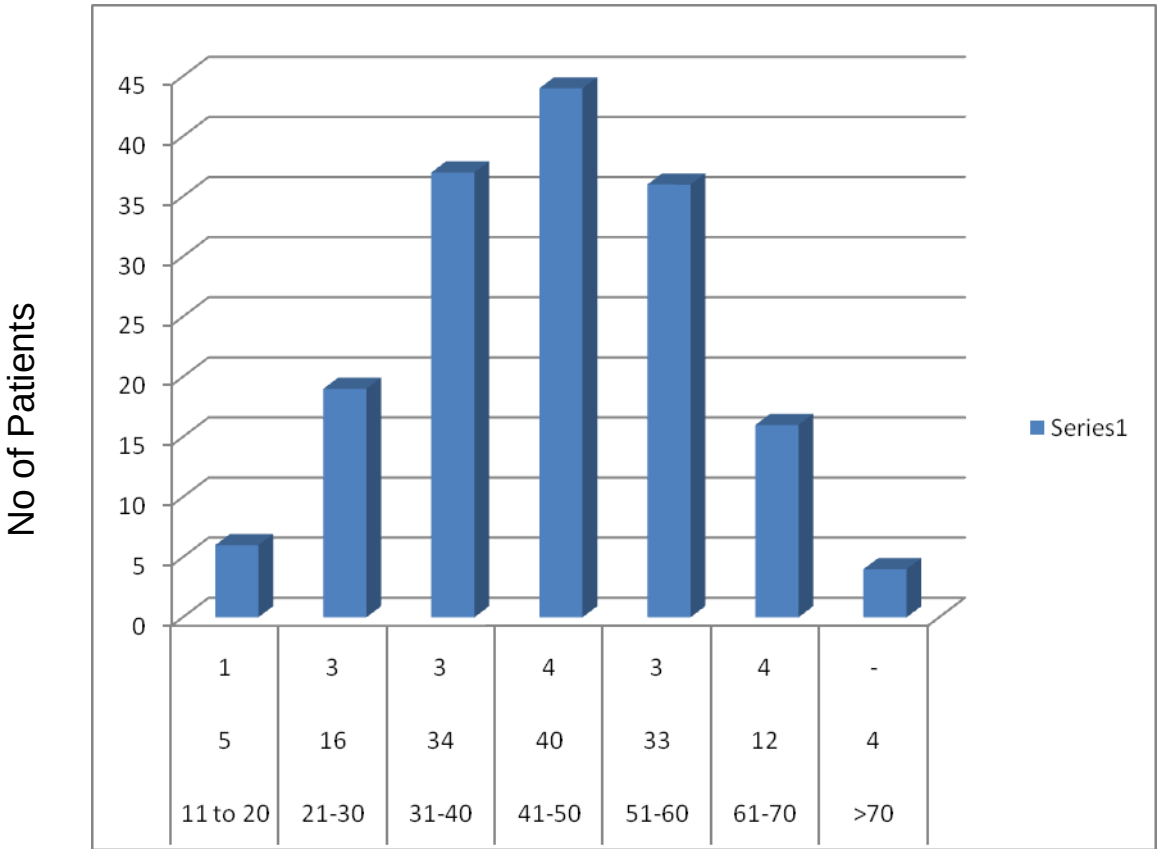
OBSERVATION AND RESULTS

In the period between june 2007 to november 2009, 160 cases of perforated duodenal ulcer were admitted in the general surgical ward at Annal Gandhi memorial Govt. Medical College Hospital,Trichy. Since Trichy medical college hospital is a tertiary centre most of the cases were from Trichy town and from the adjacent townsof Kulithalai, Musiri, Manapparai, Perambalur, Srirangam, Lalkudi, Thuraiyur., etc.

Age inYrs.	Males	Females	Total	%
11-20	5	1	6	4%
21-30	16	3	19	12%
31-40	34	3	37	23%
41-50	40	4	44	27.5%
51-60	33	3	36	22.5%
61-70	12	4	16	10%
>70	4	-	4	1%
Total	142	18	160	100%

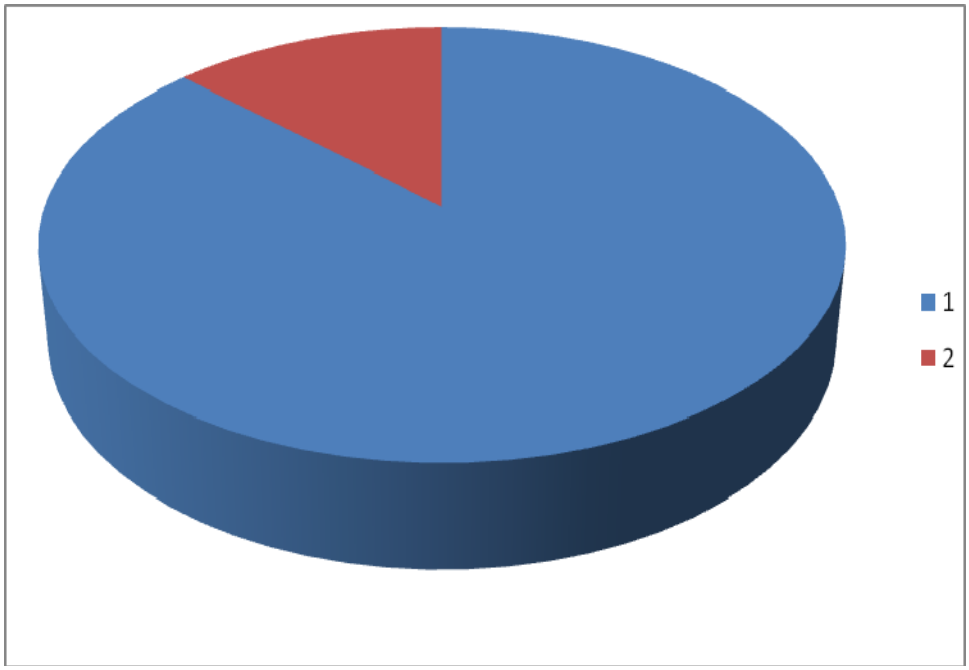
1. Age incidence: Majority i.e, 50.5% of the patients were between 31 to 50 years. The youngest was 19 years and the oldest was 75 years.

AGE INCIDENCE



AGE IN YEARS

SEX INCIDENCE



1- MALES-87%

2- FEMALES-13 %

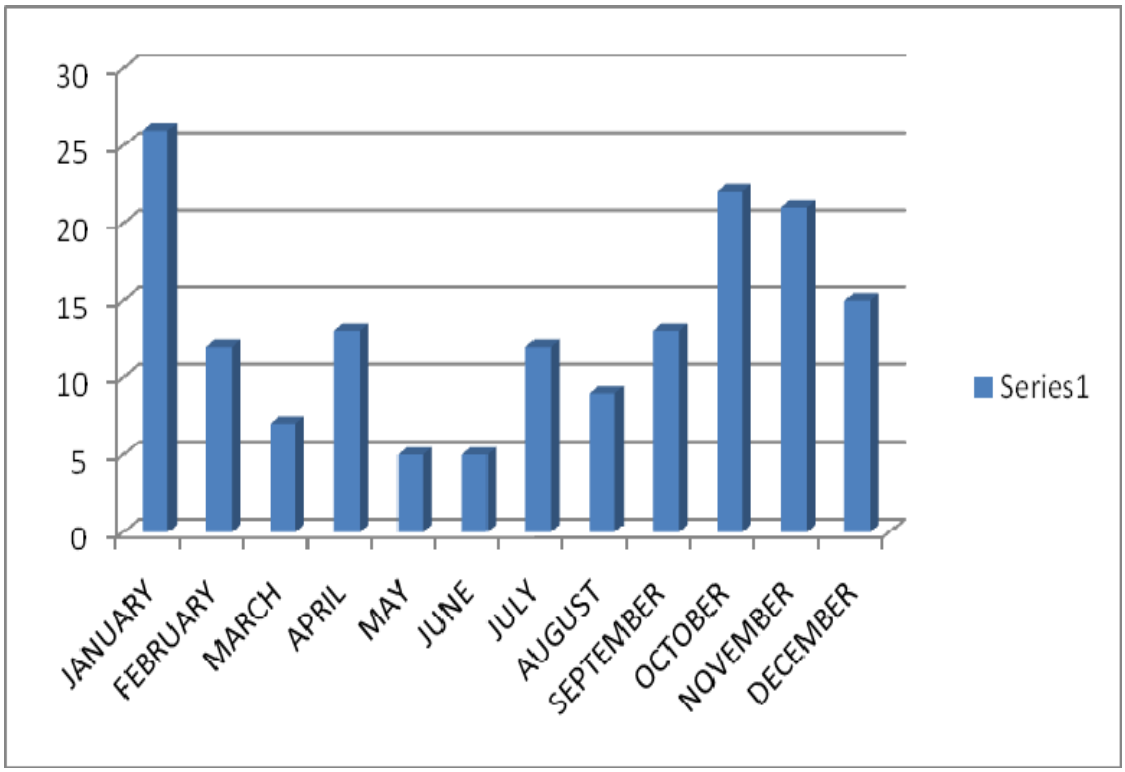
3. Socioeconomic status: All patients in this study were of the low socioeconomic group.

4. Seasonal trends: Cases were maximum during winter season (October, November, December, January) about 53%

SEASONAL TRENDS

MONTHS	NO.OF CASES	%
JANUARY	26	16
FEBRUARY	12	7.5
MARCH	7	4.5
APRIL	13	8
MAY	5	3
JUNE	5	3
JULY	12	7.5
AUGUST	9	6
SEPTEMBER	13	8
OCTOBER	22	14
NOVEMBER	21	13
DECEMBER	15	9.5

SEASONAL TRENDS



5. Predisposing factors:

NSAID users - 42%

Alcohol - 38%

Smoking - 24%

In case of NSAIDs an interval between history of intake of drugs and perforation was about 12-24 Hours.

6. Previous peptic ulcer history: 23% of the patients had previous peptic ulcer history. Some of the patients were under treatment with H2 blockers, proton pump inhibitors and antacids. Some of them were on irregular treatment.

7. History of previous surgery: There was one patient who had surgery for similar complaints.

8. Diet: 89% of patients in the study were taking mixed diet. 11% of patients were pure vegetarians.

9. Clinical presentation: Most of the patients in the study had abdominal pain and vomiting.

Site of pain:

Epigastric - 56%
Right Hypochondrium - 20%
Right iliac fossa - 2%
Non specific - 22%

10. Vomiting: 80% of the patients had bilious vomiting.

SIGNS

1. Abdominal tenderness, guarding and Rigidity:

All of the patients on admission had abdominal guarding, rigidity and tenderness.

All of the patients had Obliteration of liver dullness.

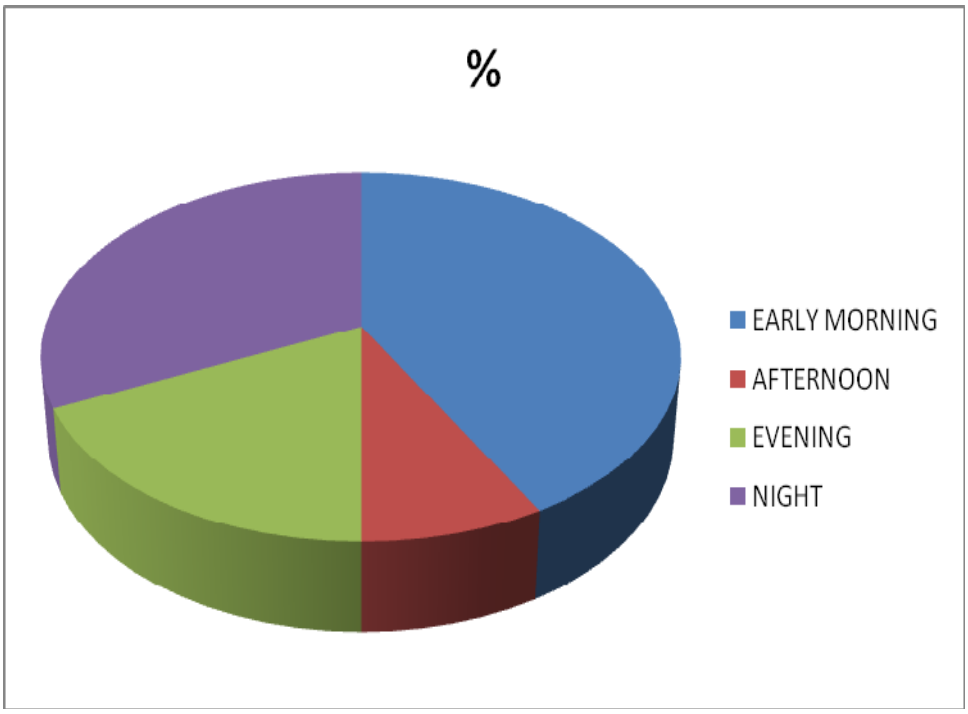
2. **Time of perforation**:

Most of the patients had perforation in the night and in the early morning.

TIME OF PERFORATION

TIME	**NO.OF PATIENTS**	**%**
EARLY MORNING	67	42
AFTERNOON	13	8
EVENING	29	18
NIGHT	51	32

TIME OF PERFORATION

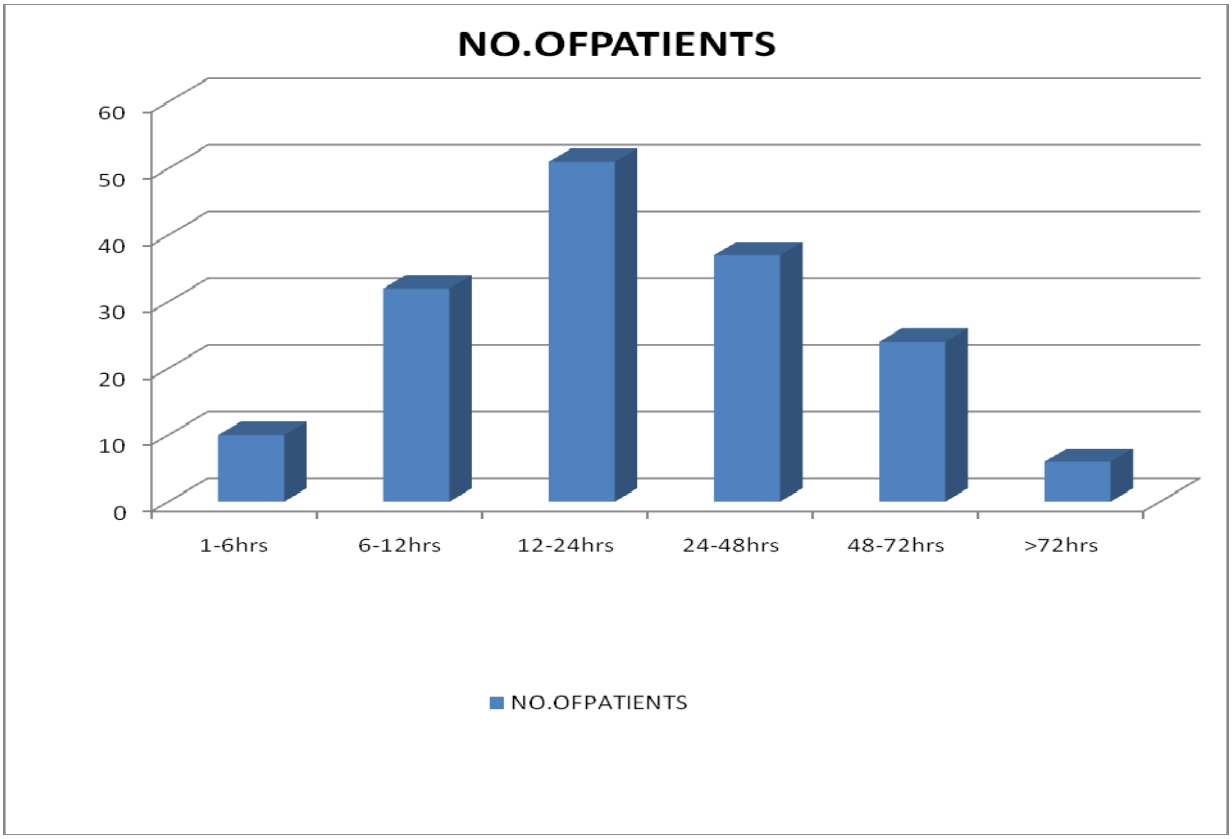


Duration of illness

Most of the patients got admitted between 12-24 hours following perforation. Mild dehydration was present in many of them. It was treated conservatively

TIME	NO.OF PATIENTS	%
1-6hrs	10	6
6-12hrs	32	20
12-24hrs	51	32
24-48hrs	37	23
48-72hrs	24	15
>72hrs	6	4

DURATION OF ILLNESS



No of Patients

DURATION

INVESTIGATIONS

Blood urea and serum creatinine

13 patients had raised blood urea and serum creatinine levels.

Plain X-ray Abdomen

All cases had pneumoperitonium in the plain X ray abdomen erect posture(Air under the diaphragm).

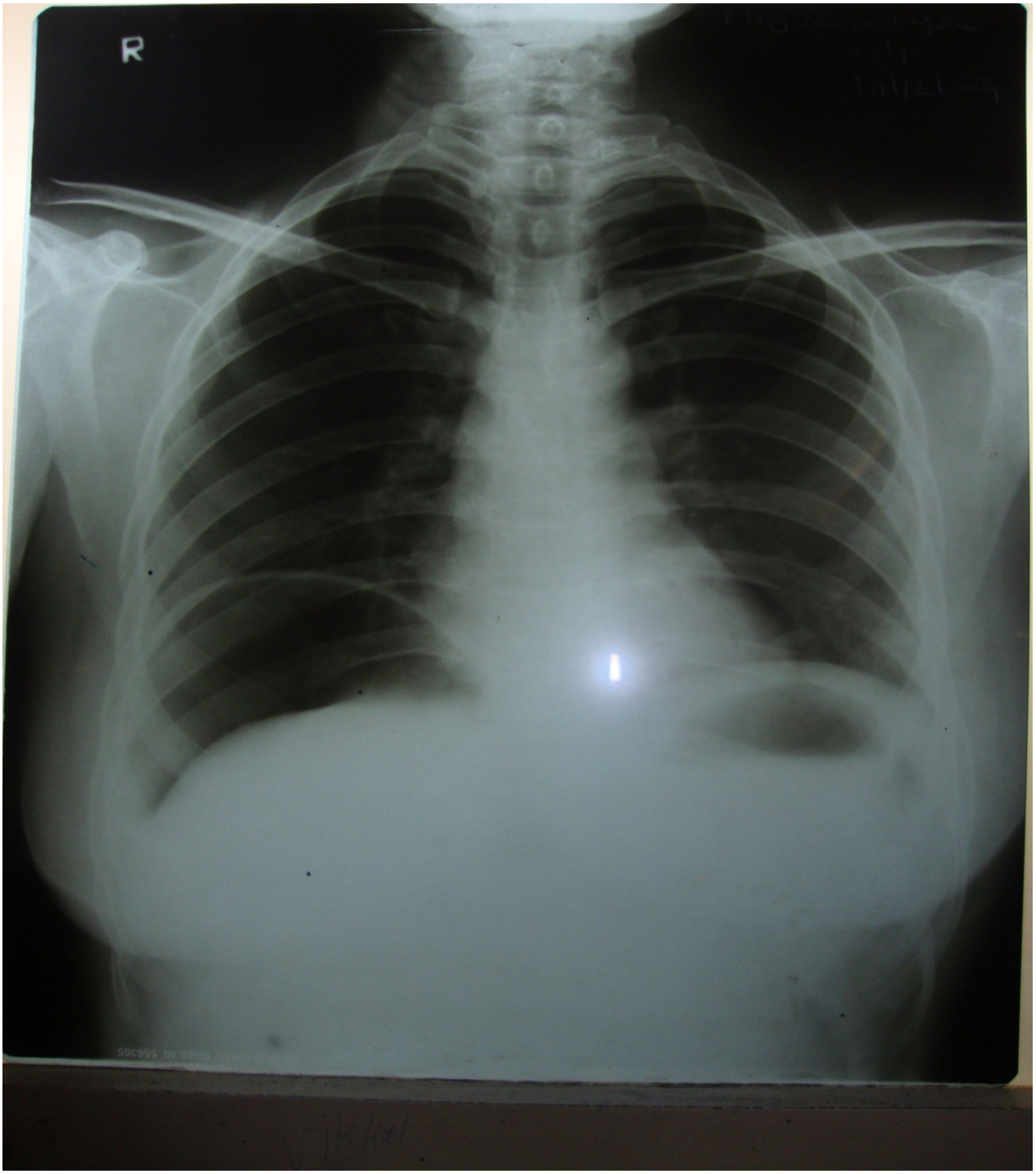
X ray chest P.A. view taken for all the patients showed air under the diaphragm.

X-ray left lateral decubitus was taken for clinically unstable pts i.e, those who were not able to stand erect.

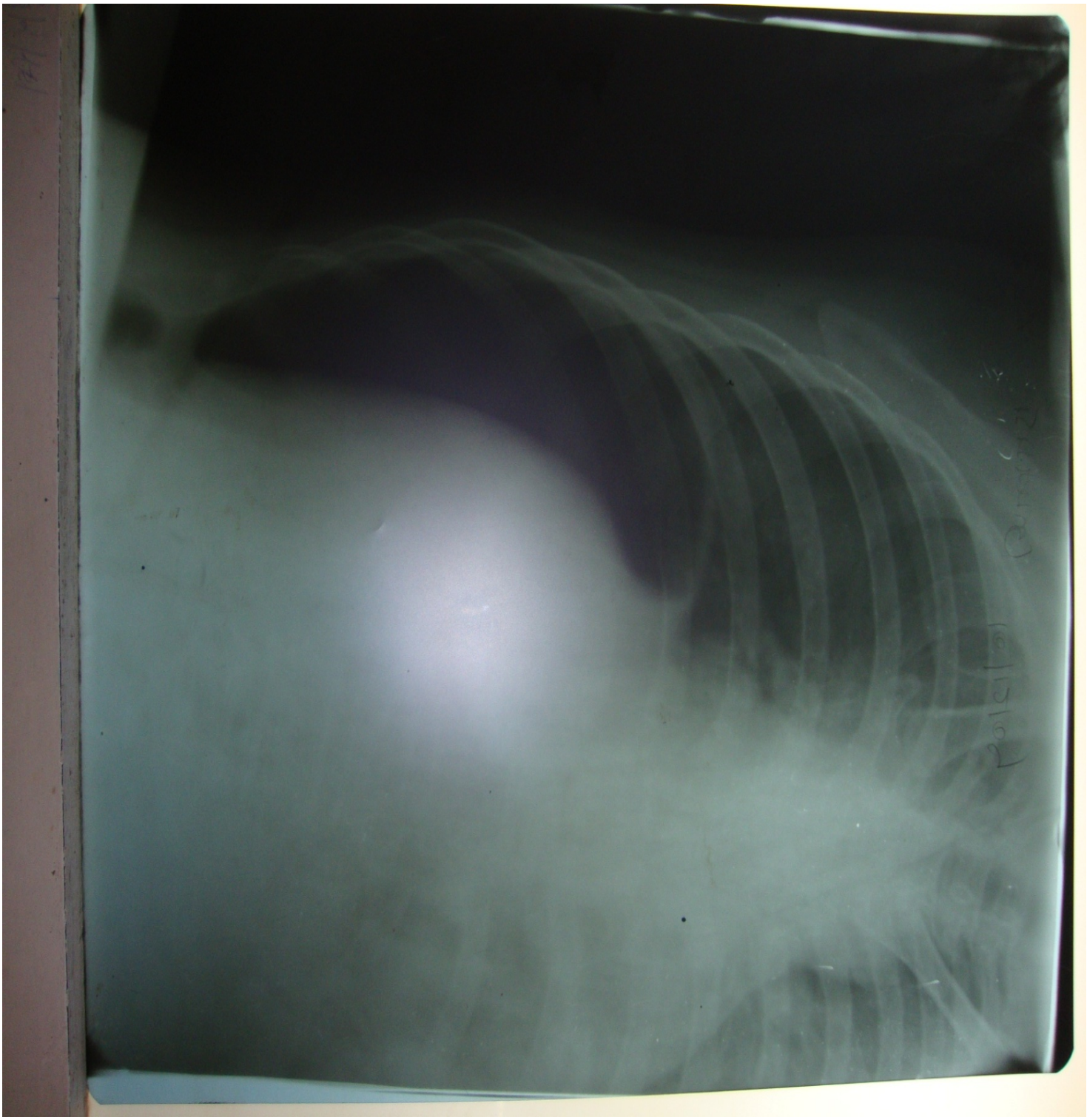
MANAGEMENT

9 patients were not fit for surgery, so bilateral flank drainage was done. 7 of the patients died. All were above 50 years of age.

Rests of the 151 patient were prepared for surgery. 17 patients died post operatively due to late presentation, acute renal failure, and septicemia.



X-RAY ABDOMEN ERECT –AIR UNDER THE DIAPHRAGM



X-RAY ABDOMEN -LEFT LATERAL DECUBITUS-
PNEUMOPERITONEUM

ANAESTHESIA

General anaesthesia : 64 cases.

Spinal anaesthesia ; 34 cases

Epidural anaesthesia : 53 cases.

INCISION

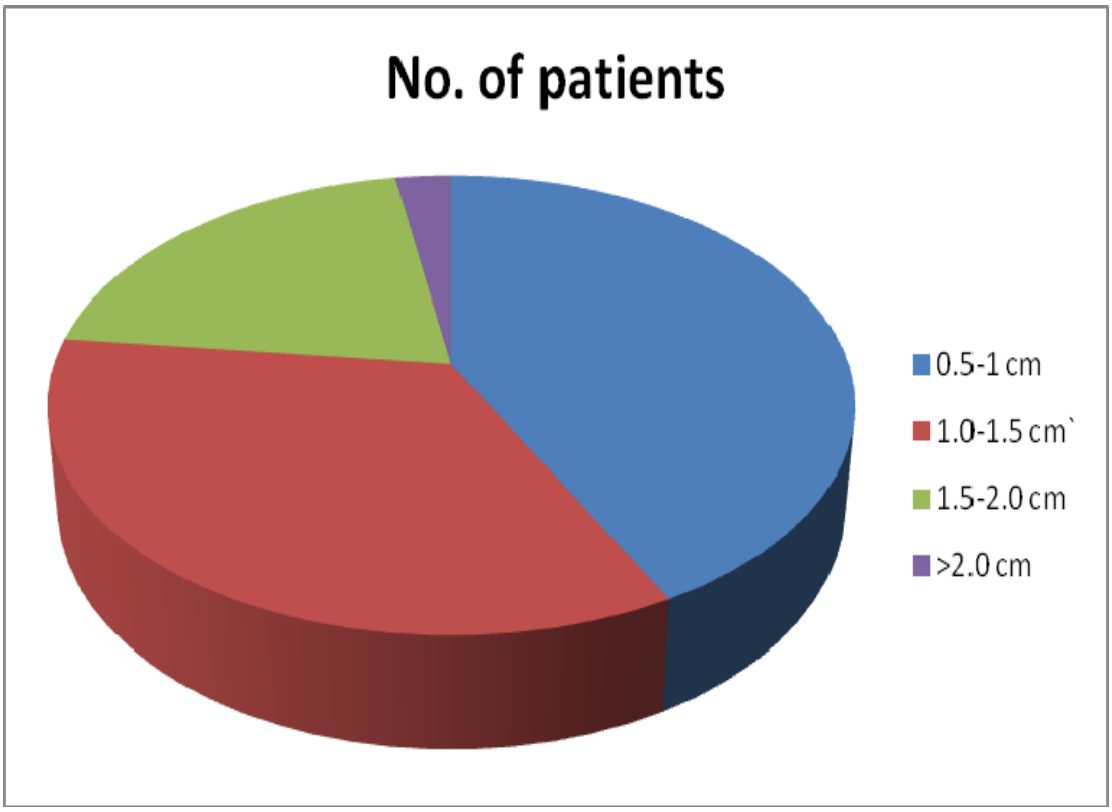
Upper midline incision : 131

Right paramedian incision : 20

SIZE OF PERFORATION

Size of perforation	No. of patients
0.5-1 cm	64
1.0-1.5 cm`	52
1.5-2.0 cm	31
>2.0 cm	4

SIZE OF PERFORATION



NATURE OF PERITONEAL FLUID

Nature of Peritoneal Fluid	No. of Patients.
PURULENT	44
BILIOUS	116

DEATHS

Age in Yrs.	SEX		No. of Deaths
	M	F	
11-20	**-**	**-**	**-**
21-30	**-**	**-**	**-**
31-40	**1**	**-**	**1**
41-50	**-**	**1**	**3**
51-60	**7**	**-**	**7**
61-70	**2**	**1**	**5**
>70	**1**	**-**	**1**

Post operative day	No of deaths
<1	3
1-2	5
3-4	2
5-6	3
7-8	2

9-10	1
>10	1

MORBIDITY

The post operative period of 143 patients was uneventful and the remaining had morbidity. And the morbidity were due to

1. Duration of perforation >24 hours
2. Amount of fluid in peritoneal cavity> 1000ml
3. Size of perforation > 1 cm
4. Nature of fluid was purulent

The above features increased the post operative hospital stay and further complications as below.

1. Enteral feeding was delayed due to paralytic ileus in six patients.
2. Wound infection occurred in fifteen patients.
3. Wound gaping developed in six cases and secondary suturing was done.
4. Febrile episodes presented once or twice in 18 cases treated conservatively.
5. Obstructive features in one case and TV with PGJ done.

FOLLOW UP

Anti H. pylori therapy – Triple drug regimen [Amoxcilline,Metronidazoleand omeprazole] for 14 days given.

During the follow up period of 3 months, subacute intestinal obstruction occurred in three patient and were treated conservatively. Incisional hernia occurred in six cases and Anatomical repair was done. Active duodenal ulcer was present in two patients after simple closure of perforation. One was treated with Truncal vagotomy with posteriror gastro jejunostomy due to gastric outlet obstruction and the other was treated conservatively with anti H. Pylori therapy and proton pump inhibitors.

DISCUSSION

Perforated peptic ulcer is one of the common acute emergencies in surgical practice as seen by published data from India and Abroad.

Perforated gastric and duodenal ulcers were first reported in 1727 and 1746 respectively. It continues to account for 10% of the hospital admissions and occurs in 7-10 patients per year per 100,000 population. Although this emergency can occur at any age, it is important to be prepared for its management in an increasingly older population.Left undiagnosed and untreated, these patients will die

due to continues loss of intra vascular fluid and subsequently due to hypotension and shock.

Nowadays the demographic changes in the age and sex distribution are due to increased consumption of NSAID and injury due to H. Pylori in the wall of the duodenum and stomach.

In 19th century majority of the perforations were gastric and most commonly occurred in young women. Now-a-days duodenal perforation exceeds gastric perforations. Men are more affected than women.

AGE INCIDENCE

In general the age incidence of perforation is approximately same as peptic ulcers. About 75% occur in third, fourth and fifth decades and 25% only in the first and second decade. In 1940 Debakey reported 23% incidence > 5 years of age. Devitt and Taylor reported in 1966 that 35% were older than 6 years. In India Bhattacharya et al. in 1969 showed increased incidence within the age group of 30 to 40 years. In the present series 50.5% of cases occurred between 31 to 50 years which correlates well with the above results.

STUDY	YEAR	%	AGE GROUP
De Bakey	1940	>23%	>50 yr
Taylor	1966	35	>60 yr
Goyal & Gupta	1966	32	30-40 yr
Bhattacharya et al	1969	32	30-40 yr
Jerzy,Jarnik Piotrchwinot Poland	1799-96	33	35-55 yr
Present Series	2007-09	50.5	31-50 yr

SEX INCIDENCE

STUDY	YEAR	MALE	FEMALE
Hoyer	1957	90%	10%
Mattinglyed et al	1980	88%	12%
Malhotra et al	1967	95%	3.1%
Jerzy,Jarnik Poland	1996	75%	24%
Present series	2007-09	87%	13%

In 1957, Hoyer reported that 90% of perforation occur in males and 1% in women. Malhotra from South India reported in 1967 that 95% of perforations occur in males and 3.1% in females. In Poland series 1966, it was found that the incidence of perforation was 75% in males and 24% in females. In our present series 87% occurred in males 13% in females.

OCCUPATION

According to Tilton in his analysis of 50 cases, 33 were leading a sedentary life. In the present study all the patients were labourers and of the low socio economic group.

SEASONAL TRENDS

There is an increase in the incidence of ulcer perforation in winter season, as shown by Jamieson, Jerzy Jarnik also showed an increased incidence during winter months and most commonly in the afternoon and Night. The present series shows a similar trend and the time of occurance was most commonly during night and early morning.

CLINICAL FEATURES

ETIOPATHOGENESIS

There is both experimental and clinical evidence that corticosteroids augment the frequency of perforation. Roseman and Economou pointed out that perforation in so called steroid ulcers can be particularly treacherous. Duggan found that over 50% of 118 patients with acute free perforation were regular NSAID users and alcohol and smoking were associated factors. Donoldson and juarret found that 36(7%) of 471 patients had history of peptic ulcer. In this

series 38% and 24 % of patients had history of alcohol and smoking respectively, 42% were taking NSAID and 23% had previous peptic ulcer disease.

PREDISPOSING FACTORS:

Study	Alcohol	Smoking	Steroid & NASID	Pervious peptic ulcer history
DUGGAN	-	-	50%	-
DONALDSON & JARRET	-	-	80%	7%
COLLIER PAIN	-	-	48%-steroid	-
WATKINI ET AL	-	-	25%	-
SWISS MED 2001	-	-	32%	23%
RAO	-	-	-	30%
PRESENT SERIES	38%	24%	42%-NSAIDS	23%

As shown by other studies, usually 75% of the patients have a previous history of gastric or duodenal ulcer, whereas 20% have a history of gastro-intestinal haemorrhage. An acute exacerbation of symptoms immediately preceeding the perforation was found in 75% of cases. The initial pain usually begins abruptly in the mid epigastrium. The direction and extent of radiation of the pain depends on the amount of gastric contents spilling into the peritoneal cavity, the anatomic course followed by the irritating substance, and the degree to which the peritoneal defences can limit its spread.

In perforated ulcer the abrupt onset can be timed almost to minutes, and the pain is sharp from that moment.

Usually nausea and vomiting accompany the pain of perforated peptic ulcer. Tachycardia, pallor and cold profuse perspiration is often present. However actual shock with hemodynamic collapse is unusual. In Mikal and Morrison's 500 cases, shock was present in 5% of cases only.

The physical findings in acute perforation are due to peritoneal irritation. In many instances, whole abdominal wall will be of board like rigidity. After 3 to 4 hours, more marked tenderness is found in

the right lower abdominal quadrant because of gravitation of the irritating gastric content along the paracolic gutter in that direction.

Unless the treatment is begun, grave events are likely to ensue and the clinical picture of generalized peritonitis with fever and increased pulse rate and pain reappear. If left untreated the patient worsens, develops fulminating diffuse peritonitis and signs of true shock and ultimately the patients dies.

RADIOLOGY

One of the reliable diagnostic aid in perforation is the X – ray demonstration of pneumoperitoneum. Paul Jordan et al. 1988 (SCNA) shows positive radiographic findings in 60 to 85% of the patients. Paster B. Brogdon BGJAMA 1976 showed positive findings in 70% of the cases. In the present series radiographic positivity was 100%.

Another useful radiologic examination is the contrast study using orally administered water soluble substance such as diatrizoate (Gastro graffin). The oral administration of such material may confirm perforation and reveal the extent of progress of gastric contents into the peritoneal cavity.

RADIOLOGY – PNEUMOPERITONEUM (AIR UNDER THE DIAPHRAGM)

STUDY	+VE	-VE
Paul Jorden et al (SCNA 1988)	60 – 85%	15-40%
Pasters B, Brogdon BG (Jama 1976)	70%	30%
Present Series	100%	-

MANAGEMENT

After resuscitating the patients with preoperative Intra venous fluids and antibiotics, patients were prepared for emergency surgery. For specific management of the acutely perforated ulcer 3 modes of treatment are available.

1. Non operative therapy
2. Surgical closure of the perforation.
3. Immediate definitive procedure.

Wangenstein in 1935 and 1972 reported non operative management and affirmed its value in selected patients. In recent years its role is limited. Indications for non operative management are

1. The patient is considered to be at high risk for surgery.

2. The diagnosis is in doubt.

3. In the present series, 9 patients all of whom in moribund status were treated conservatively using nasogastric suctrion, intravenous fluids, bilateral flank drainage and antibiotics.

The treatment of acute perforated ulcer in the majority of cases is surgical. The first surgery for acute perforation of ulcer was performed by Mikulicz in 1880. The patient died 3 hours after the sugery. Brian introduced gastrojejunostomy in addition to simple closure. Keetley in 1902 first peformed gastric resection for perforated ulcer.

Simple suture of the perforation consists of 2 rows of Lembert sutures with drainage of site of ulcer and pelvic drainage. In cases of frank peritonitis, Bennet introduced the insertion of plug of omentum into the opening and suturing it in its position by few Lembert sutures.

Whereas Cellen Jones and Roscoe Graham adapted 3 Lembert sutures with live omental patch.

The chief virtue of the closure method lies in the simplicity and effectiveness for the emergency condition. Closure performed during a relatively short period of anaesthesia is least burden to the patient.

A definitive operation involves a procedure for the ulcer disease together with the removal of ulcer bearing segment. Vagotomy with pyloroplasty and drainage procedures have received attention as safe definitive procedures for perforated peptic ulcer but about 30% of the cases develop anastomotic ulcer at within a period of 5 years.

VARIOUS LINE OF MANAGEMENT

Study	Conservative	Simple Closure	PGJ with TV	Partial Gastrectomy
Hamilton 1967	-	44	36	-
Boey et al	-	322	150	-
Wara et al	-	90	71	-
Taylor	-	100	-	-
Debakey 1974	-	-	-	535
Present Series	9	151	-	-

Moynihan, in 1902 recommended gastrojejunostomy after closure of perforation. Deaver also stressed the necessity of primary gastrojejunostomy. Various studies show that simple closure is most often followed by recurrence. PGJ with vagotomy has less recurrence. Anti H.pylori therapy following simple closure irrespective of being positive or negative reduces recurrence.

RECURRENCE OF DUODENAL ULCER PERFORATION

Study	Simple	TV with PGJ	Proximal Gastrectomy
Boey et al 88	37%	11%	-
Graham	22%	-	-
Present Series	0.6%	-	-

Zachary Cope dealt with the situation by doing pyloroduodenectomy, whereas Van Haberer adapted gastric resection in both gastric and duodenal ulcer perforations. Bisgard

performed gastrectomy even in the presence of diffuse soiling of peritoneum but mortality rate was very high.

It might be safely assumed that during first 6 hours of perforation the peritonitis was non infective whereas in perforation of more than 8 to 12 hours duration, the peritoneal fluid would be infective. In this study also showed the similar features.

The pH of the peritoneal collection was alkaline at the time of perforation and acidic after perforation. Septic peritonitis was due to bacterial contamination from infected gastric and duodenal contents. The commonly isolated organisms are Streptococci, Staphylococci, Coliform group and Pneumococci and others. The potential requisities for suppurative infection exist in all cases of free unsuspected contamination; antibiotic therapy can be appropriately modified. Post operative period was uneventful in majority of the patients.

FOLLOW UP AND LONG TERM RESULTS

The patient who survives immediate mortality period following an acute free perforation is by no means had overcome his disease. In fact, if the treatment consists of simple closure, the patient is twice as likely to have recurrence but with the introduction of anti H.pylori therapy, the recurrence has markedly decreased.

	No. of Cases	Simple Closure	Mortality
Silmar & Saint	64	63	15.5%
Houstan	184	184	8.2%
A very Jones	365	365	4.9%
Chatterjee et al	132	126	5.7%
Present Study	160	151	8.12%

CONCLUSION

This study of 160 cases of duodenal ulcer perforation at the KAPV.GOVT Medical College and AGM Hospital, TRICHY during the period of June 2007 November 2009shows the following results:

1. Duodenal ulcer is common in our series.

2. Most common age group is between 31 to 50 years.

3. Males are more affected than females (8:1)

4. All the patients are of the low socio-economic group.

5. Perforation most commonly occurs in winter months - October, November, December and January (53%).

6. The most common predisposing factor is NSAID induced (42%).

7. In our study 100% of patients had pneumoperitoneum in radiographs.

8. Time of occurrence of perforation is predominantly in night and early morning (74%).

9. Majority of patients seek medical attention within 12 to 24 hours following perforation.

10. Site of perforation is most commonly the I part of duodenum.

11. Size of perforation in 64% of patients is between 0.5 to 1.0 cm.

12. Simple suture with live omental patch is done all cases.

13. Anti H.pylori therapy decreases recurrence during the follow up period.

14. Mortality is due to late presentation,large amount of purulent peritoneal fluid,elevated renal parameters and pulmonary complications.

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PROFORMA

NAME AGE SEX M/F UNIT

I.P.NO: DOA:

DOS:

DOD:

HISTORY

Known APD patient: yes/no (period: Rx :reg / irreg)

Ho drug intake: yes/no (name of the drug)

SYMPTOMS	**DURATION**
Abdominal pain	
Abdominal distention	
Vomiting	
Constipation	
others	

PROBABLE TIME SINCE PERFORATION:

SIGNS	YES/NO
Tenderness	
Rebound Tenderness	
Guarding	
Rigidity -	
Liver dullness obliteration	

GENERAL EXAMINATION:

Anaemia Fever Cyanosis

Others

Dehydration (nil/mild/moderate/severe)

Urine output(ml/hr)

Pulse

BP / mmhg

INVESTIGATION

Plain X-Ray abdomen erect: pneumoperitoneum (Yes/No)

X-ray Lt Lateral decubitus pneumoperitoneum (Yes/No)

Chest X- Ray PA view

ECG

Blood sugar- mg%, urea:mg% ,serum Creatinine – mg%, BI.Grouping

Serum Electrolytes : Na:Meq/L K: Meq/ I

PRE-OP-TREATMENT

IVF FLUID : Pints

Antibiotics: Dose

PREOPERATIVE :

Incision: midline /Right paramedian

Site of perforation : (duodenum l/II/III/IV/)

Size of perforation:

Peritoneal fluid amount (liters)

Nature (clear/bilious/purulent/feculent)

Flakes : Present / absent

Lavage : given / not given (fluid:Amount:)

Drainage tube : kept /not kept (type: site:)

Closure of perforation : primary / omental patch

Closure of abdomen : mass / multi layer material

POST-OPERATIVE PERIOD

Findings

Abdomen become soft on

Bowel sound heard on

Ryle's tube removal on

Oral fluid started on

Discharge from the main wound till

Abdomen distension till

Diarrhoea

Drainage till

Drainage wound infection

IV fluids Antibiotics

COMPLICATIONS

Febrile episodes

Abdominal distension

Paralytic ileus

Wound infection

Wound dehiscence

Wound gaping

Respiratory complications

Septicemia

Death

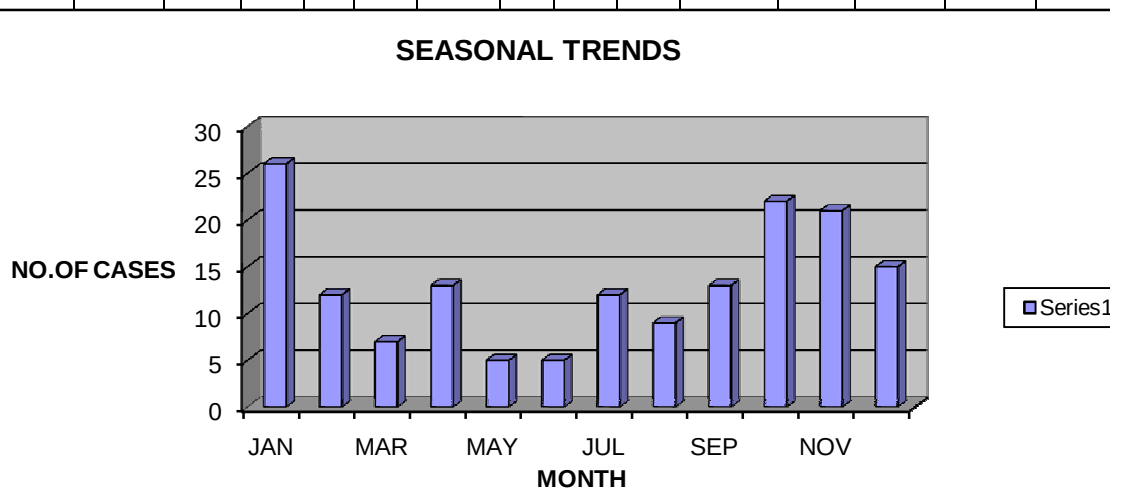
Sl.No	Name	Age	Sex	I.P.No	D.O.A.	D.O.D	Pain	Duration	Time	Alcoholic	Smoker	NSAIDS	Tenderness	Guarding	Rigidity	Distension	Liver Dullness Oblitered	Pulse	B.P.	Temperature	De-hydration
1	SURESH	34 yrs	M	26577	24.06.07	04.07.07	All over	1 Day	Morning	Y	N	Y	Diffuse	Y	Y	Y	Y	Tachy	Normal	Normal	Y
2	SUBRAMANIAN	60 yrs	M	26947	25.06.07	08.07.07	Rt.side	2 Days	Night	Y	N	N	Rt.Hypo	Y	Y	Y	Y	Tachy	Normal	High	Y
3	KARUNANIDHI	45 yrs	M		27.06.07	11.07.07	All over	1/2 Day	Morning	N	N	N	Diffuse	Y	Y	Y	Y	Tachy	Normal	Normal	N
4	PERIANNAN	45 yrs	M	29223	09.07.07	20.07.07	Upper	1 Day	Morning	N	Y	N	Epi	Y	Y	Y	Y	Normal	Normal	High	Y
5	KASI	39 yrs	M	32777	02.08.07	17.08.07	Upper	2 Days	Evening	Y	N	N	Epi	Y	Y	Y	Y	Tachy	Normal	Normal	Y
6	MUTHUKRISHNAN	40 yrs	M	30720	02.08.07	13.08.07	All over	1/4 Day	Morning	Y	N	Y	Diffuse	Y	Y	Y	Y	Tachy	Normal	Normal	Y
7	CHANDRAN	40 yrs	M	32977	07.08.07	20.08.07	Upper	1 Day	Morning	N	N	N	Epi	Y	Y	Y	Y	Tachy	Normal	Normal	N
8	SARAVANAN	23 yrs	M	36107	24.08.07	05.09.07	Rt.side	1 Day	Night	N	Y	N	Rt.Hypo	Y	Y	Y	Y	Tachy	Normal	High	N
9	THIRUNAVUKARASU	20 yrs	M	37690	03.09.07	13.09.07	All over	1/2 Day	Morning	Y	N	N	Epi	Y	Y	Y	Y	Tachy	Normal	Normal	Y
10	LAWRENCE	65 yrs	M	37866	05.09.07	17.09.07	Upper	2 Days	Night	N	Y	N	Epi	Y	Y	Y	Y	Normal	Normal	Normal	N
11	CHITRA	27 yrs	F	39161	13.09.07	25.09.07	Rt.side	3 Days	Night	N	N	Y	Rt.Hypo	Y	Y	Y	Y	Tachy	Normal	Normal	Y
12	MURUGAN	40 yrs	M	39609	16.09.07	23.09.07	All over	1 Day	Afternoo	Y	N	N	Diffuse	Y	Y	Y	Y	Tachy	Normal	High	Y
13	GOPALAKRISHNAN	74 yrs	M	40280	20.09.07	08.10.07	all over	3 Days	Evening	Y	N	N	Epi	Y	Y	Y	Y	Tachy	Normal	Normal	N
14	CHANDRASEKARAN	20 yrs	M	42143	21.10.07	28.10.07	All over	1/2 Day	Morning	N	N	Y	Epi	Y	Y	Y	Y	Tachy	Normal	Normal	N
15	KARUPPAN	19 yrs	M	44381	15.10.07	28.10.07	Upper	1/2 Day	Morning	N	N	Y	Epi	Y	Y	Y	Y	Tachy	Normal	Normal	Y
16	RAVI	35 yrs	M	45084	19.10.07	27.10.07	All over	1 Day	Night	Y	Y	Y	Epi	Y	Y	Y	Y	Tachy	Normal	High	Y
17	KRISHNAN	46 yrs	M	45187	20.10.07	28.10.07	Rt.side	1/2 Day	Evening	Y	N	N	Rt.Hypo	Y	Y	Y	Y	Tachy	Normal	Normal	Y
18	RUKMANI	49 yrs	F	40244	27.10.07	09.11.07	All over	2day	Morning	N	N	N	Diffuse	Y	Y	Y	Y	Tachy	Hypo	High	Y
19	BABU	25 yrs	M	46505	29.10.07	08.11.07	Upper	1/2 Day	Morning	N	Y	Y	Epi	Y	Y	Y	Y	Tachy	Normal	Normal	N
20	KARUNANIDHI	49 yrs	M	47846	08.11.07	19.11.07	Rt.side	1 Day	Night	Y	N	N	Rt.Hypo	Y	Y	Y	Y	Tachy	Normal	Normal	N
21	GANESAN	48 yrs	M	48513	12.11.07	24.11.07	Upper	3 Days	Night	Y	Y	N	Epi	Y	N	N	N	Normal	Normal	Normal	Y
22	SHANTHI	38 yrs	F	49247	16.11.07	25.11.07	All over	1/4 Day	Morning	N	N	Y	Diffuse	Y	Y	Y	Y	Tachy	Hyper	High	N
23	PITCHAI	60 yrs	M	49406	12.11.07	22.11.07	All over	1 Day	Morning	Y	N	N	Diffuse	Y	Y	Y	Y	Tachy	Normal	Normal	Y
24	SUBRAMANIAN	35 yrs	M	49930	21.11.07	28.11.07	All over	1/2 Day	Morning	N	Y	Y	Epi	Y	Y	Y	Y	Tachy	Normal	Normal	Y
25	DURAISAMY	50 yrs	M	50150	22.11.07	30.11.07	All over	1 Day	Evening	Y	N	N	Diffuse	Y	Y	Y	Y	Tachy	Normal	High	N
26	RAJARAJAN	55 yrs	M	50449	24.11.07	01.12.07	Rt.side	2 Days	Afternoo	Y	N	N	Rt.Hypo	Y	Y	Y	Y	Tachy	Normal	Normal	N
27	GNANASELVAM	46 yrs	M	50665	26.11.07	05.12.07	Rt.side	1 Day	Morning	Y	N	Y	Rt.Hypo	Y	Y	Y	Y	Tachy	Hypo	Cold	Y
28	PALANIAMMAL	42 yrs	F	60076	28.11.07	08.12.07	Rt.side	3 Days	Evening	N	N	N	RIF	Y	Y	Y	Y	Normal	Normal	Normal	Y
29	SANGEETHA	41 yrs	F	61636	09.12.07	18.12.07	Upper	2 Days	Night	N	N	Y	Epi	Y	Y	Y	Y	Tachy	Normal	Normal	N
30	SATHYAMOORTHI	38 yrs	M	62254	13.12.07	20.12.07	Upper	1/2 Day	Morning	N	Y	N	Epi	Y	Y	Y	Y	Tachy	Normal	Normal	Y
31	ANWAR	65 yrs	M	62938	17.12.07	23.12.07	Upper	1 Day	Morning	Y	N	N	Epi	N	N	N	N	Tachy	Hypo	Cold	Y
32	MAYILVANNAN	44 yrs	M	63847	19.12.07	27.12.07	All over	3 Days	Night	N	N	Y	Diffuse	Y	Y	Y	Y	Tachy	Normal	High	N
33	KARUPPAN	50 yrs	M	63396	23.12.007	02.01.08	Upper	1 Day	Evening	Y	N	N	Epi	Y	Y	Y	Y	Normal	Normal	Normal	N
34	JOSEPH	31 yrs	M	63579	25.12.07	06.01.08	Upper	1/4 Day	Morning	N	N	Y	Epi	Y	Y	Y	Y	Tachy	Normal	High	N
35	ARJUNAN	40 yrs	M	63617	25.12.07	04.01.08	All over	2 Days	Evening	N	N	N	Epi	Y	Y	Y	Y	Tachy	Normal	Normal	Y
36	MURUGESAN	39 yrs	M	236	03.01.08	11.01.08	All over	1/2 Day	Morning	N	Y	Y	Diffuse	Y	Y	Y	Y	Tachy	Normal	Normal	Y
37	PALANIAMMAL	65 yrs	F	1029	08.01.08	19.01.08	Upper	3 Days	Night	N	N	Y	Epi	Y	Y	Y	Y	Tachy	Normal	Normal	N
38	VADIVEL	60 yrs	M	1845	16.01.08	27.01.08	Upper	2 Days	Morning	Y	Y	N	Epi	Y	Y	Y	Y	Tachy	Normal	Normal	Y

39	RAMESH	38 yrs	M	1851	16.01.08	24.01.08	All over	1/2 Day	Morning	N	N	N	Epi	Y	Y	Y	Y	Normal	Normal	Normal	Y
40	RAVI	40 yrs	M	3440	27.01.08	04.02.08	Upper	1 Day	Morning	N	Y	N	Epi	Y	Y	Y	Y	Tachy	Normal	High	Y
41	THANGARAJ	55 yrs	M	3617	28.01.08	06.02.08	All over	2 Days	Evening	Y	N	N	Diffuse	Y	Y	Y	Y	Normal	Hyper	Normal	N
42	RAJENDRAN	41 yrs	M	4077	31.01.08	11.02.08	Rt.side	1 Day	Night	N	N	Y	Rt.Hypo	Y	Y	Y	Y	Tachy	Normal	Normal	N
43	ISAAC	48 yrs	M	4488	03.02.08	12.02.08	Upper	1/4 Day	Morning	Y	N	N	Epi	Y	Y	Y	Y	Tachy	Normal	Normal	N
44	MOHAMMED IBRAHIM	49 yrs	M	5506	10.02.08	21.02.08	Rt.side	2 Days	Night	N	Y	N	Rt.Hypo	Y	Y	Y	Y	Tachy	Normal	Normal	Y
45	ALAGAN	40 yrs	M	6541	17.02.08	28.02.08	Rt.side	1 Day	Afternoo	N	N	Y	Rt.Hypo	Y	Y	Y	Y	Tachy	Normal	High	N
46	SANGILI	55 yrs	M	7409	23.02.08	03.03.08	All over	3 Days	Evening	Y	N	N	Diffuse	Y	Y	Y	Y	Tachy	Normal	Normal	Y
47	DEVASAGAYAM	32 yrs	M	8389	01.03.08	11.03.08	All over	1/2 Day	Morning	N	Y	Y	Epi	Y	Y	Y	Y	Tachy	Normal	Normal	Y
48	MURUGESAN	42 yrs	M	12003	21.03.08	30.03.08	Upper	1 Day	Morning	N	N	Y	Epi	Y	Y	Y	Y	Tachy	Normal	Normal	Y
49	GOVINDAN	43 yrs	M	6086	03.04.08	12.04.08	All over	2 Days	Night	Y	Y	N	Epi	Y	Y	Y	Y	Tachy	Normal	Normal	Y
50	PAPPATHY	60 yrs	F	14349	06.04.08	15.04.08	Upper	1 Day	Evening	N	N	Y	Epi	Y	Y	Y	Y	Tachy	Normal	High	N
51	SENJAPILLAI	55 yrs	M	10860	07.04.08	15.04.08	Upper	1 Day	Morning	N	N	N	Epi	Y	Y	Y	Y	Tachy	Hypo	Cold	N
52	SRIDHAR	35 yrs	M	15621	14.04.08	23.04.08	Rt.side	1/2 Day	Morning	N	Y	Y	Rt.Hypo	Y	Y	Y	Y	Normal	Normal	Normal	Y
53	SHERBUDEEN	40 yrs	M	16101	17.04.08	29.04.08	Upper	1 Day	Night	Y	N	N	Epi	Y	Y	Y	Y	Tachy	Normal	Normal	N
54	SALEEM	40 yrs	M	16279	18.04.08	30.04.08	All over	1/4 Days	Morning	N	Y	Y	Diffuse	Y	Y	Y	Y	Tachy	Normal	Normal	Y
55	RANJIT KUMAR	20 yrs	M	16391	19.04.08	28.04.08	Upper	1 Day	Evening	N	N	Y	Epi	Y	Y	Y	Y	Tachy	Normal	Normal	Y
56	RAMASWAMY	60 yrs	M	16491	20.04.08	1.05.07	Rt.side	2 Days	Morning	Y	N	N	Rt.Hypo	Y	Y	Y	Y	Tachy	Normal	Normal	N
57	ANNAVI	55 yrs	M	18645	05.05.08	16.05.08	All over	1/2 Day	Morning	N	Y	N	Epi	Y	Y	Y	Y	Tachy	Normal	High	N
58	RAJA	30 yrs	M	30094	20.05.08	27.05.08	Upper	3 Days	Night	N	Y	Y	Epi	Y	Y	Y	Y	Tachy	Normal	Normal	N
59	SARADHA	65 yrs	F	22804	03.06.08	24.05.08	Upper	1 Day	Afternoo	N	N	N	Epi	Y	Y	Y	Y	Tachy	Normal	High	Y
60	POUNRAJ	55 yrs	M	22591	10.06.08	21.05.08	Upper	3 Days	Evening	Y	N	N	Epi	Y	Y	Y	Y	Tachy	Normal	Normal	Y
61	PONNUSWAMY	55 yrs	M	28127	02.07.08	16.07.08	All over	1 Day	Morning	N	Y	Y	Diffuse	Y	Y	Y	Y	Normal	Normal	Normal	N
62	PERIANNAN	35 yrs	M	28721	06.07.08	15.07.08	Rt.side	1/2 Day	Morning	Y	N	Y	Rt.Hypo	Y	Y	Y	Y	Tachy	Normal	Normal	Y
63	PERIANNAN	45 yrs	M	29922	07.07.08	17.07.08	All over	2 Days	Night	N	N	N	Epi	Y	Y	Y	Y	Tachy	Hypo	Normal	Y
64	CHINNAMMAL	60 yrs	F	28774	07.07.08	21.07.08	Upper	1 Day	Morning	N	N	Y	Epi	Y	Y	Y	Y	Tachy	Hyper	Normal	Y
65	MAHAMUNI	50 yrs	M	31093	24.07.08	.3.08.08	All over	3 Days	Night	Y	N	Y	Epi	Y	Y	Y	Y	Tachy	Normal	Normal	N
66	SOMAKANDAN	42 yrs	M	32147	29.07.08	03.08.08	Upper	2 Days	Evening	N	N	N	Epi	N	N	N	N	Tachy	Normal	Normal	Y
67	KARUPAIAH	45 yrs	M	33956	07.08.08	17.08.08	Rt.side	1/2 Day	Morning	Y	N	Y	RIF	Y	Y	Y	Y	Tachy	Normal	Normal	N
68	MARIMUTHU	64 yrs	M	34810	13.08.08	25.08.08	Upper	1 Day	Night	Y	N	N	Epi	Y	Y	Y	Y	Normal	Normal	High	N
69	RAJAMMAL	70 yrs	F	41710	30.09.08	12.10.08	Upper	3 Days	Night	N	N	N	Epi	Y	Y	Y	Y	Tachy	Normal	Normal	Y
70	AMSAVALLI	30 yrs	M	43307	11.10.08	22.10.08	All over	1/4 Day	Morning	Y	Y	Y	Epi	Y	Y	Y	Y	Tachy	Normal	Normal	Y
71	MANICKAM	62 yrs	M	43581	13.10.08	18.10.08	All over	2 Days	Afternoo	Y	N	Y	Diffuse	Y	Y	Y	Y	Normal	Normal	Normal	N
72	MATHIALAGAN	40 yrs	M	43646	13.10.08	25.10.08	All over	1/2 Day	Morning	N	Y	Y	Diffuse	Y	Y	Y	Y	Tachy	Normal	Normal	N
73	MOHANASUNDARAM	58 yrs	M	43476	14.10.08	24.10.08	Rt.side	1 Day	Night	N	N	N	Rt.Hypo	Y	Y	Y	Y	Tachy	Hyper	High	Y
74	NALLAMMAL	47 yrs	F	43184	16.10.08	26.10.08	Upper	2 Days	Night	N	N	Y	Epi	Y	Y	Y	Y	Tachy	Normal	Normal	Y
75	HALIL	57 yrs	F	44431	19.10.08	01.11.08	Upper	1 Day	Morning	N	N	N	Epi	Y	Y	Y	Y	Tachy	Normal	Normal	Y
76	GANESAN	60 yrs	M	44689	21.10.08	1.11.08	All over	3 Days	Night	Y	N	N	Epi	Y	Y	Y	Y	Tachy	Normal	Normal	N
77	MANICKAM	35 yrs	M	44942	23.10.08	4.11.08	Upper	1/2 Day	Morning	N	Y	Y	Epi	Y	Y	Y	Y	Tachy	Normal	Normal	Y
78	SHANMUGAVEL	60 yrs	M	44990	24.10.08	06.11.08	All over	2 Days	Evening	Y	N	N	Diffuse	Y	Y	Y	Y	Tachy	Hypo	Cold	N
79	KAIRASI	60 yrs	M	45239	26.10.08	2o.11.08	Upper	1 Day	Morning	N	N	N	Epi	Y	Y	Y	Y	Normal	Normal	High	N

80	MANIVEL	60 yrs	M	45779	30.10.08	11.11.08	Rt.side	3 Days	Night	Y	N	N	Rt.Hypo	Y	Y	Y	Y	Tachy	Normal	Normal	Y
81	CHETTY	50 yrs	M	47418	07.11.08	26.11.08	Upper	1 Day	Evening	N	N	N	Epi	Y	Y	Y	Y	Tachy	Normal	Normal	Y
82	MURUGAN	37 yrs	M	47675	10.11.08	10.12.08	All over	4 Days	Night	Y	N	Y	Epi	Y	Y	Y	Y	Tachy	Normal	Normal	Y
83	SAGANTHARAN	38 yrs	M	47689	10.11.08	21.11.08	Upper	1/2 Day	Afternoo	N	N	Y	Epi	Y	Y	Y	Y	Tachy	Normal	Normal	Y
84	CHINNARASAN	45 yrs	M	49727	20.11.08	30.11.08	Upper	2 Days	Night	Y	N	N	Epi	Y	Y	Y	Y	Tachy	Normal	High	N
85	GOVINDARAJU	44 yrs	M	49972	22.11.08	01.12.08	Rt.side	1 Day	Afternoo	Y	N	N	Rt.Hypo	Y	Y	Y	Y	Tachy	Normal	Normal	N
86	MURUGAN	35 yrs	M	47675	24.11.08	3.12.08	Upper	1/2 Day	Morning	N	Y	Y	Epi	Y	Y	Y	Y	Tachy	Hypo	Cold	Y
87	JOHNPETER	42 yrs	M	50252	24.11.08	09.12.08	All over	3 Days	Evening	Y	N	N	Diffuse	Y	Y	Y	Y	Tachy	Normal	Normal	N
88	LAWRENCE	40 yrs	M	57189	02.12.08	25.12.08	Upper	4 Days	Night	N	N	N	Epi	Y	Y	Y	Y	Normal	hypo	Normal	Y
89	RAJINI	25 yrs	M	51929	08.12.08	20.12.08	Upper	1 Day	Morning	Y	N	Y	Epi	Y	Y	Y	Y	Tachy	Normal	Normal	N
90	KANDASWAMY	60 yrs	M	52772	12.12.08	21.12.08	All over	2 Days	Morning	Y	N	N	Epi	Y	Y	Y	Y	Tachy	Normal	Normal	N
91	SELVAM	23 yrs	M	53424	17.12.08	27.12.08	All over	1 Day	Evening	N	N	Y	Diffuse	Y	Y	Y	Y	Normal	Normal	Normal	N
92	ANDIAPPAN	55 yrs	M	53449	17.12.08	27.12.08	All over	1 Day	Night	Y	N	N	Epi	Y	Y	Y	Y	Tachy	Normal	High	Y
93	RAJA	36 yrs	M	53456	17.12.08	31.12.08	Upper	1/2 Day	Morning	N	Y	Y	Epi	Y	N	N	N	Tachy	Normal	Normal	Y
94	SENTHILKUMAR	26 yrs	M	54115	22.12.08	01.01.09	Upper	1 Day	Night	N	N	Y	Epi	Y	Y	Y	Y	Tachy	Normal	High	N
95	MURUGESAN	60 yrs	M	55423	31.12.08	12.01.09	Upper	2 Days	Morning	Y	N	N	Epi	Y	Y	Y	Y	Tachy	Normal	Normal	Y
96	VELU	60 yrs	M	270	03.01.09	12.01.09	Rt.side	1 Day	Night	Y	N	N	Rt.Hypo	Y	Y	Y	Y	Tachy	Normal	Normal	Y
97	NAVAMANI	45 yrs	M	9358	08.01.09	20.01.09	All over	10 Days	Night	Y	N	Y	Epi	Y	Y	Y	Y	Normal	Normal	Normal	Y
98	FATHIMA	48 yrs	F	1102	09.01.09	23.01.09	Upper	1/2 Day	Afternoo	N	Y	N	Epi	Y	Y	Y	Y	Tachy	Normal	Normal	N
99	RAJI	20 yrs	F	1602	13.01.09	21.01.09	Upper	1/2 Day	Morning	N	N	Y	Epi	Y	Y	Y	Y	Tachy	Normal	Normal	Y
100	ANNADURAI	67 yrs	M	1631	13.01.09	26.1.09	Rt.side	2 Days	Night	Y	N	N	Rt.Hypo	Y	Y	Y	Y	Tachy	Normal	Normal	N
101	CHINNAIYA	42 yrs	M	1900	16.01.09	23.01.09	Upper	1 Day	Morning	N	Y	N	Epi	Y	Y	Y	Y	Tachy	Normal	Normal	N
102	ALAGAN	40 yrs	M	2341	19.01.09	29.01.09	All over	1 Day	Evening	Y	N	Y	Diffuse	Y	Y	Y	Y	Tachy	Normal	Normal	Y
103	MOHAMED MEERAN	36 yrs	M	2555	21.01.09	25.01.09	All over	4 Days	Morning	N	N	Y	Diffuse	Y	Y	Y	Y	Tachy	Hypo	Cold	Y
104	MANICKAM	53 yrs	M	2742	21.01.09	04.02.09	Upper	10 Days	Night	Y	N	N	Epi	Y	Y	Y	Y	Tachy	Hyper	High	Y
105	SARAVANAN	30 yrs	M	3134	21.01.09	03.02.09	Upper	7 Days	Night	N	N	Y	Epi	Y	Y	Y	Y	Normal	Normal	Normal	N
106	PERIASAMY	45 yrs	M	3169	24.01.09	03.02.09	All over	2 Days	Evening	Y	Y	N	Epi	Y	Y	Y	Y	Tachy	Normal	Normal	Y
107	USMAN	46 yrs	M	3301	26.01.09	09.02.09	Upper	1 Day	Morning	Y	N	N	Epi	Y	Y	Y	Y	Tachy	Normal	Normal	N
108	KANAGARAJ	31 yrs	M	3466	28.01.09	29.01.09	All over	2 Days	Night	N	Y	N	Epi	Y	Y	Y	Y	Normal	Hypo	Cold	N
109	DURAIRAJ	25 yrs	M	3363	28.01.09	05.02.09	Upper	1/2 Day	Morning	N	N	Y	Epi	Y	Y	Y	Y	Tachy	Normal	Normal	Y
110	VARADARAJ	19 yrs	M	3740	29.01.09	09.02.09	Upper	1/2 Day	Evening	N	N	Y	Epi	Y	Y	Y	Y	Tachy	Normal	Normal	Y
111	RAJAPANDIAN	38 yrs	M	3455	29.01.09	07.02.09	Rt.side	1 Day	Morning	Y	N	N	Rt.Hypo	Y	Y	Y	Y	Tachy	Normal	Normal	Y
112	SATHYA	19yrs	M	4044	31.01.09	11.02.09	Upper	1 Day	Night	N	N	Y	Epi	Y	Y	Y	Y	Tachy	Normal	Normal	N
113	KOLANCHI	69 yrs	M	3954	31.01.09	11.02.09	Rt.side	1/2 Day	Evening	Y	N	N	Rt.Hypo	Y	Y	Y	Y	Normal	Hyper	Normal	Y
114	MURUGESAN	38 yrs	M	4071	31.01.09	07.02.09	Upper	1 Day	Morning	Y	N	Y	Epi	Y	Y	Y	Y	Tachy	Normal	High	N
115	ANDIAPPAN	64 yrs	M	4929	03.02.09	10.02.09	All over	2 Days	Night	Y	N	N	Diffuse	Y	Y	Y	Y	Normal	Normal	Normal	Y
116	IYYAMMAL	50 yrs	F	4462	03.02.09	14.02.09	All over	2 Days	Morning	N	N	Y	Epi	Y	Y	Y	Y	Tachy	Normal	High	N
117	MAHENDRAN	27 yrs	M	4992	09.02.09	19.02.09	Upper	1 Day	Afternoo	N	N	Y	Epi	Y	Y	Y	Y	Tachy	Normal	Normal	N
118	ARUMUGAM	37 yrs	M	5425	10.02.09	22.02.09	Upper	1/2 Day	Morning	Y	N	N	Epi	Y	Y	Y	Y	Tachy	Normal	Normal	Y
119	MUNIAPPAN	47 yrs	M	5942	14.02.09	25.02.09	Rt.side	2 Days	Night	Y	Y	Y	Rt.Hypo	Y	Y	Y	Y	Tachy	Normal	Normal	Y
120	KOLLIMALAI	75 yrs	M	6221	16.02.09	28.02.09	Upper	3 Days	Morning	Y	N	N	Epi	Y	Y	Y	Y	Tachy	Normal	Normal	Y

121	GOVINDARAJU	50 yrs	M	8070	27.02.09	13.03.09	Rt.side	1/2 Day	Afternoo	N	Y	N	Rt.Hypo	Y	Y	Y	Y	Normal	Normal	Normal	N
122	MOOKAIYAN	43 yrs	M	8321	01.03.09	14.03.09	All over	2 Days	Night	Y	N	Y	Epi	Y	Y	Y	Y	Tachy	Normal	Normal	Y
123	VEERAN	40 yrs	M	9609	08.03.09	28.03.09	All over	3 Days	Evening	N	N	Y	Diffuse	Y	Y	Y	Y	Normal	Hyper	High	N
124	LAKSHMANAN	65 yrs	M	9912	09.03.09	21.03.09	Rt.side	1 Day	Morning	Y	N	N	RIF	Y	Y	Y	Y	Tachy	Normal	Normal	N
125	MOOKAIYAN	52 yrs	M	8321	12.03.09	22.03.09	Upper	1/2 Day	Morning	N	Y	N	Epi	N	N	N	N	Tachy	hypo	Normal	Y
126	MUTHUKANNAN	57 yrs	M	10537	14.03.09	28.03.09	Upper	1 Day	Evening	Y	N	N	Epi	Y	Y	Y	Y	Tachy	Normal	Normal	Y
127	SURESH	24 yrs	M	13742	04.04.09	13.04.09	All over	1/4 Day	Morning	N	N	Y	Epi	Y	Y	Y	Y	Tachy	Normal	Normal	Y
128	LATHA	28 yrs	F	13777	04.04.09	28.04.09	Upper	1 Day	Morning	N	Y	N	Epi	Y	Y	Y	Y	Tachy	Normal	Normal	N
129	RAMESH	35 yrs	M	14534	09.04.09	18.04.09	Rt.side	1 Day	Evening	Y	N	N	Rt.Hypo	Y	Y	Y	Y	Tachy	Normal	Normal	Y
130	VELUSAMY	32 yrs	M	16151	20.04.09	02.05.09	Upper	3 Days	Afternoo	N	N	Y	Epi	Y	Y	Y	Y	Normal	Normal	Normal	Y
131	SHANTHA	45 yrs	F	16591	22.04.09	06.05.09	All over	1/2 Day	Morning	N	Y	Y	Diffuse	Y	Y	Y	Y	Tachy	Normal	High	N
132	ALAMUTHU	70 yrs	M	17770	01.05.09	15.05.09	Rt.side	2 Days	Morning	Y	N	N	Rt.Hypo	Y	Y	Y	Y	Tachy	Normal	High	Y
133	JEBAMALAI	70 yrs	M	17979	01.05.09	06.05.09	Upper	1 Day	Morning	Y	N	N	Epi	Y	Y	Y	Y	Tachy	Normal	Normal	N
134	PAPPATHY	55 yrs	F	18209	03.05.09	16.05.09	All over	2 Days	Night	N	Y	N	Epi	Y	Y	Y	Y	Normal	Normal	Normal	Y
135	ANUMANTHAN	65 yrs	M	27943	01.07.09	16.07.09	All over	3 Days	Morning	Y	N	N	Diffuse	Y	Y	Y	Y	Tachy	Normal	Normal	Y
136	JOSEPH	55 yrs	M	28775	07.07.09	20.07.09	Upper	2 Days	Evening	N	N	N	Epi	Y	Y	Y	Y	Normal	Normal	Normal	Y
137	PERIASAMY	60 yrs	M	30035	15.07.09	30.07.09	All over	1/4 Day	Afternoo	Y	N	Y	Epi	Y	Y	Y	Y	Tachy	Hypo	Cold	N
138	KALIYAN	60 yrs	M	32105	23.07.09	31.07.09	Rt.side	2 Days	Morning	Y	N	N	Rt.Hypo	Y	Y	Y	Y	Tachy	Normal	Normal	Y
139	AROCKIAM	80 yrs	M	32754	27.07.09	10.08.09	All over	3 Days	Night	Y	N	N	Epi	Y	Y	Y	Y	Normal	Normal	High	N
140	YASAR ARAFAT	19 yrs	M	31995	02.08.09	12.08.09	Rt.side	1/2 Day	Morning	N	N	Y	Rt.Hypo	Y	Y	Y	Y	Tachy	Normal	Normal	Y
141	BAGYARAJ	42 yrs	M	34210	06.08.09	15.08.09	Upper	1 Day	Evening	N	Y	N	Epi	Y	Y	Y	Y	Tachy	Normal	Normal	Y
142	MADHAN	60 yrs	M	36894	24.08.09	.4.09.09	Upper	2 Days	Night	Y	N	N	Epi	Y	Y	Y	Y	Tachy	Normal	Normal	Y
143	VELACHI	30 yrs	F	14482	01.09.09	13.09.09	All over	1/4 Day	Morning	N	N	Y	Epi	Y	Y	Y	Y	Tachy	Normal	Normal	Y
144	PALANI	58 yrs	M	38488	04.09.09	14.09.09	Rt.side	3 Days	Night	N	N	N	Rt.Hypo	Y	Y	Y	Y	Tachy	Normal	Normal	N
145	SHANKAR	43 yrs	M	38823	06.09.09	19.09.09	All over	1 Day	Night	N	Y	Y	Diffuse	Y	Y	Y	Y	Tachy	Normal	Normal	Y
146	ALAGAR	48 yrs	M	41265	22.09.09	30.09.09	Upper	2 Days	Evening	Y	N	N	Epi	Y	Y	Y	Y	Normal	Normal	High	Y
147	KOWSALYA	27 yrs	F	41153	22.09.09	04.10.09.	All over	3 Days	Night	N	N	Y	Diffuse	Y	Y	Y	Y	Tachy	Normal	Normal	Y
148	CHANDRA	48yrs	F	41443	23.09.09	1.10.09	Upper	1 Day	Evening	N	N	Y	Epi	Y	Y	Y	Y	Tachy	Normal	Normal	N
149	THANGARAJ	52 yrs	M	42131	27.09.09	7.10.07	Rt.side	1 Day	Morning	Y	N	N	Rt.Hypo	Y	Y	Y	Y	Tachy	Hypo	Cold	Y
150	KARNAN	37 yrs	M	43754	08.10.09	07.10.09	Upper	1 Day	Night	N	Y	N	Epi	Y	Y	Y	Y	Tachy	Normal	Normal	Y
151	MARIAPPAN	45 yrs	M	44459	12.10.09	19.10.09	All over	4 Days	Night	Y	N	Y	Epi	Y	Y	Y	Y	Tachy	Normal	High	Y
152	RATHINAM	44 yrs	M	44806	13.10.09	28.10.09	Rt.side	2 Days	Night	N	N	N	Rt.Hypo	Y	Y	Y	Y	Tachy	Normal	Normal	N
153	PITCHAI	50 yrs	M	47011	21.10.09	30.10.09	All over	2 Days	Night	Y	N	N	Epi	Y	Y	Y	Y	Normal	Normal	Normal	Y
154	THIYAGARAJAN	45 yrs	M	47049	21.10.09	30.10.09	Upper	1/4 Day	Morning	N	N	N	Epi	Y	Y	Y	Y	Tachy	Hyper	Normal	Y
155	CHANDRASEKARAN	47yrs	M	48081	26.10.09	11.10.09	Upper	1 Day	Evening	N	N	Y	Epi	Y	Y	Y	Y	Tachy	Normal	Normal	Y
156	KANNAIYAN	45 yrs	M	50126	03.11.09	12.11.09	All over	2 Days	Night	Y	Y	N	Epi	Y	Y	Y	Y	Tachy	Normal	High	N
157	HALIL	57 yrs	M	50735	06.11.09	25.11.09	Upper	2 Days	Afternoo	N	N	N	Epi	Y	Y	Y	Y	Tachy	Normal	Normal	Y
158	SHANKAR	60 yrs	M	50986	07.11.09	18.11.09	All over	3 Days	Night	Y	N	N	Diffuse	Y	Y	Y	Y	Tachy	Hypo	Cold	Y
159	SENTHIL	30 yrs	M	46784	04.11.09	14.11.09	Rt.side	1/2 Day	Night	N	N	Y	Rt.Hypo	Y	Y	Y	Y	Normal	Normal	Normal	N
160	PONNUSWAMY	25 yrs	M	52756	08.11.09	15.11.09	Upper	3 Days	Morning	N	N	N	Epi	Y	Y	Y	Y	Normal	Normal	Normal	Y

JAN	26
FEB	12
MAR	7
APR	13
MAY	5
JUN	5



JUL	12
AUG	9
SEP	13
OCT	22
NOV	21
DEC	15

11to20	6
21to30	19
31to40	37
41to50	44
51to60	36
61to70	16
71&abov	2

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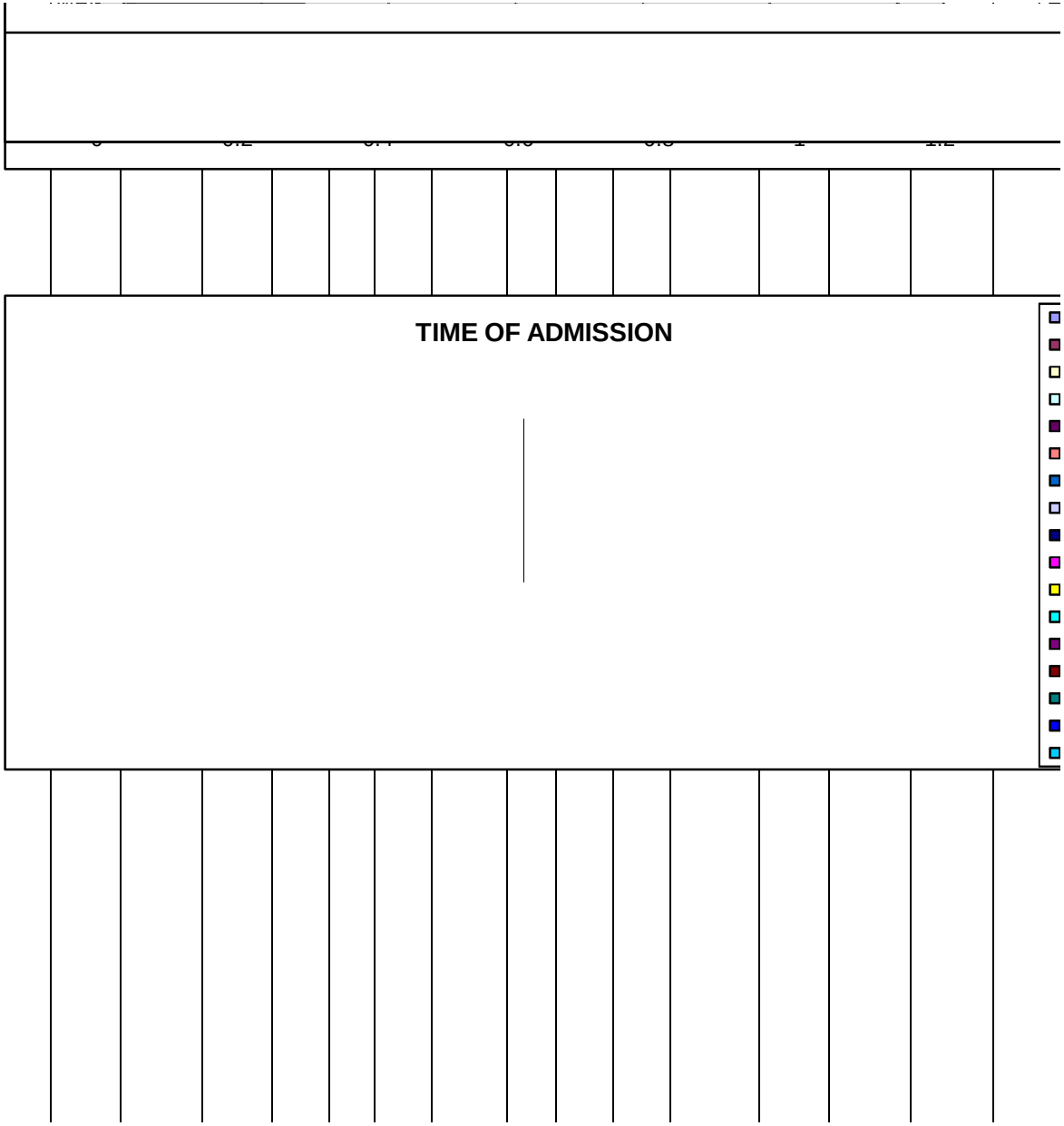

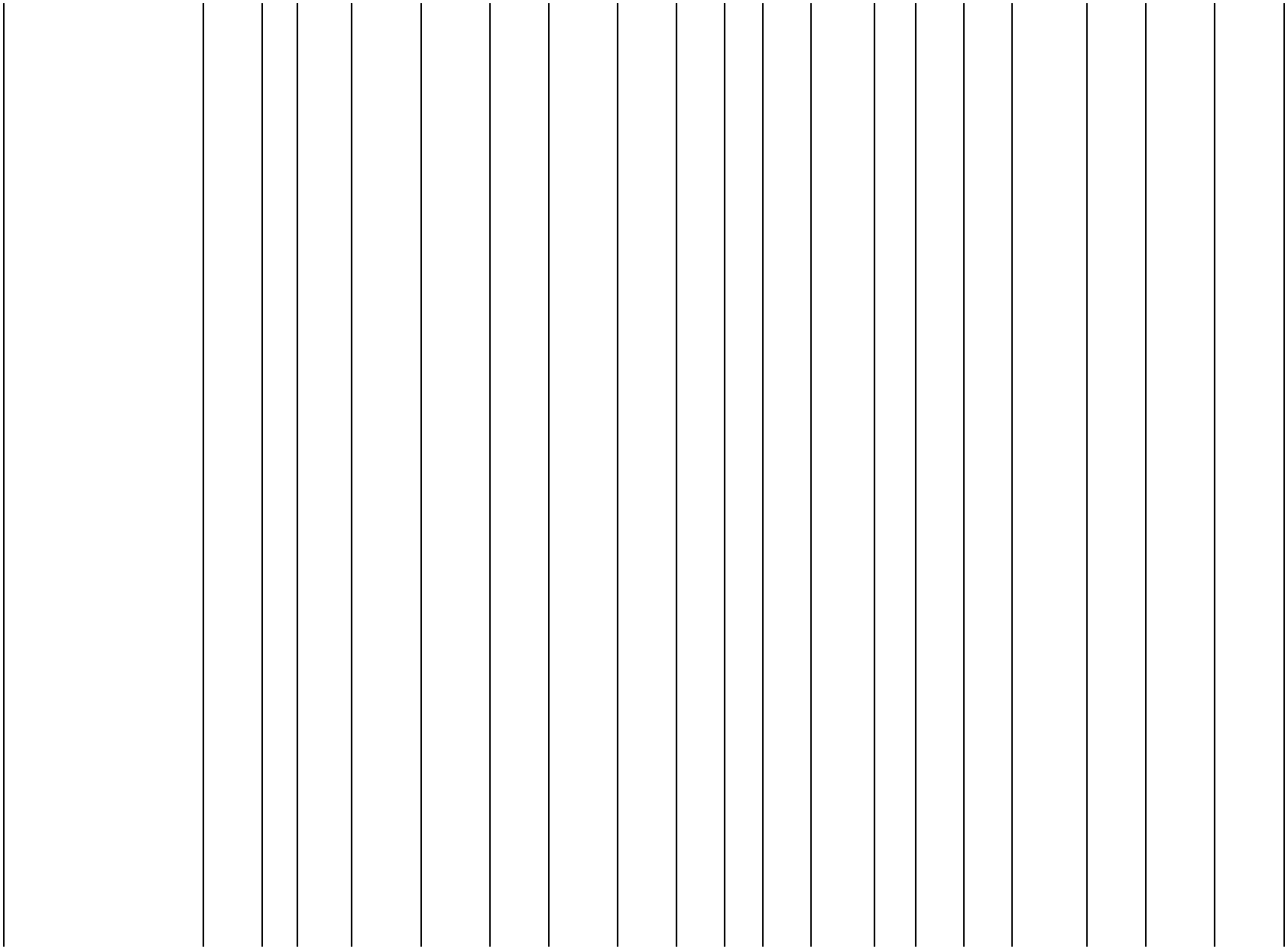

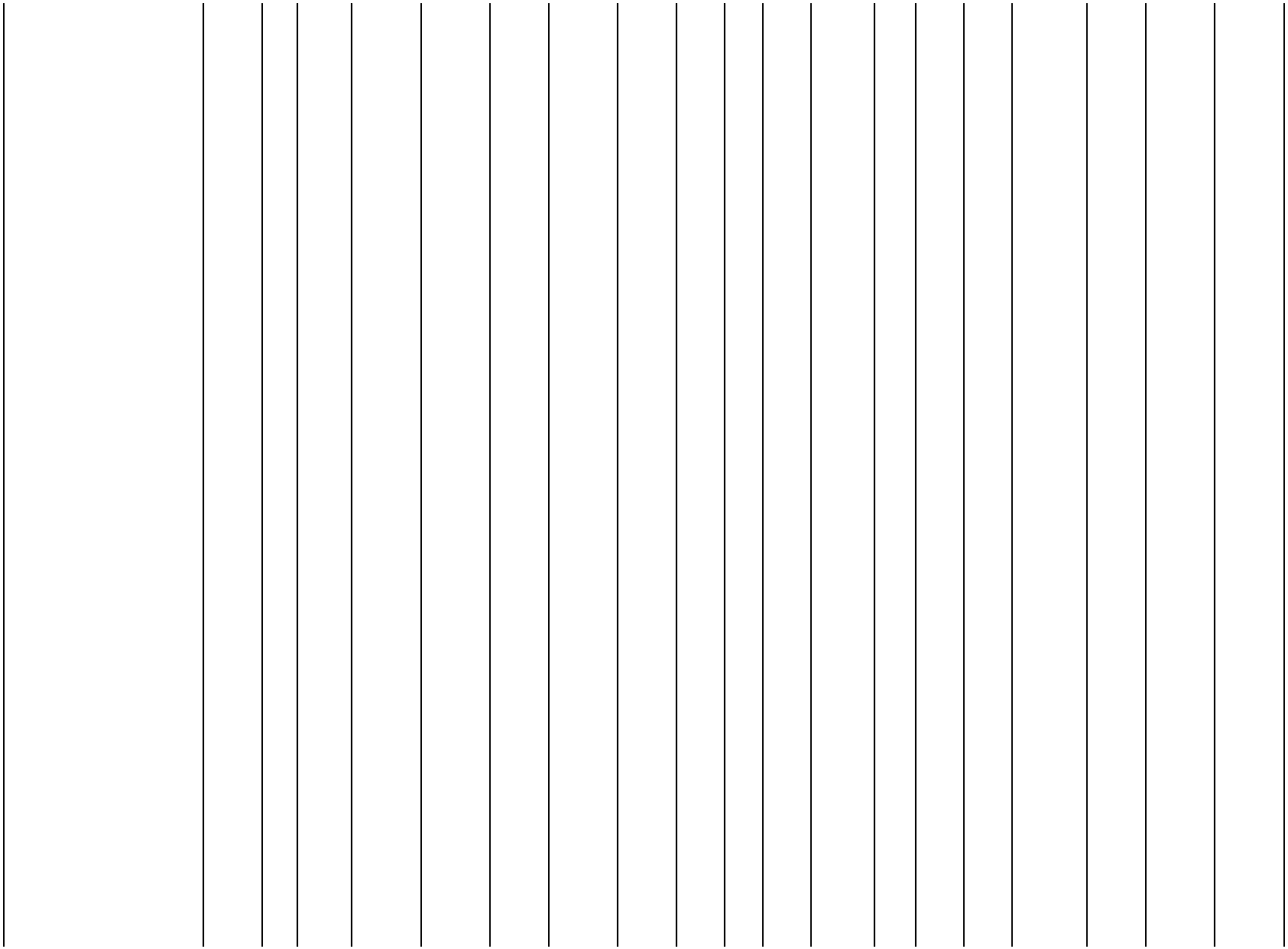

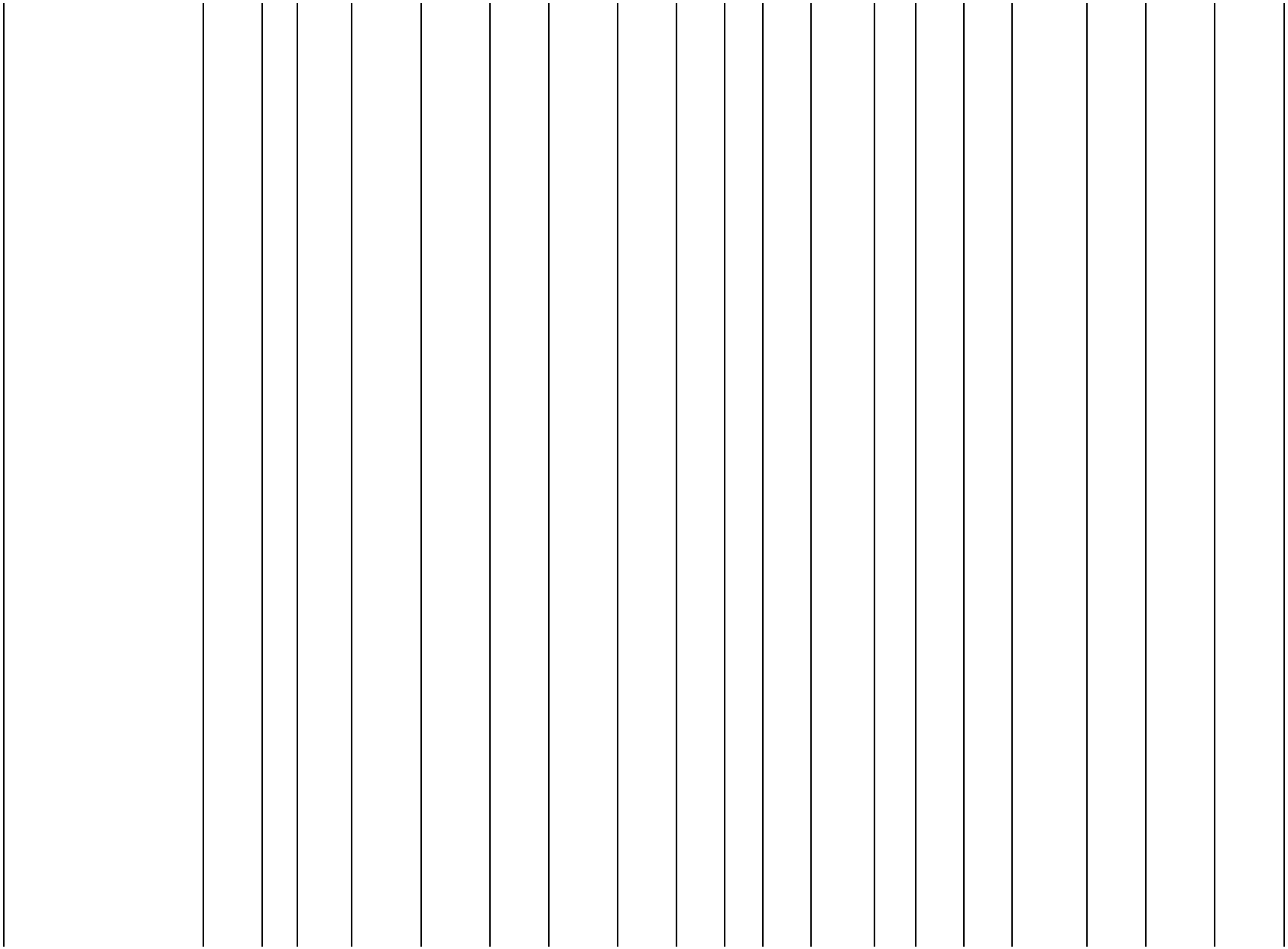

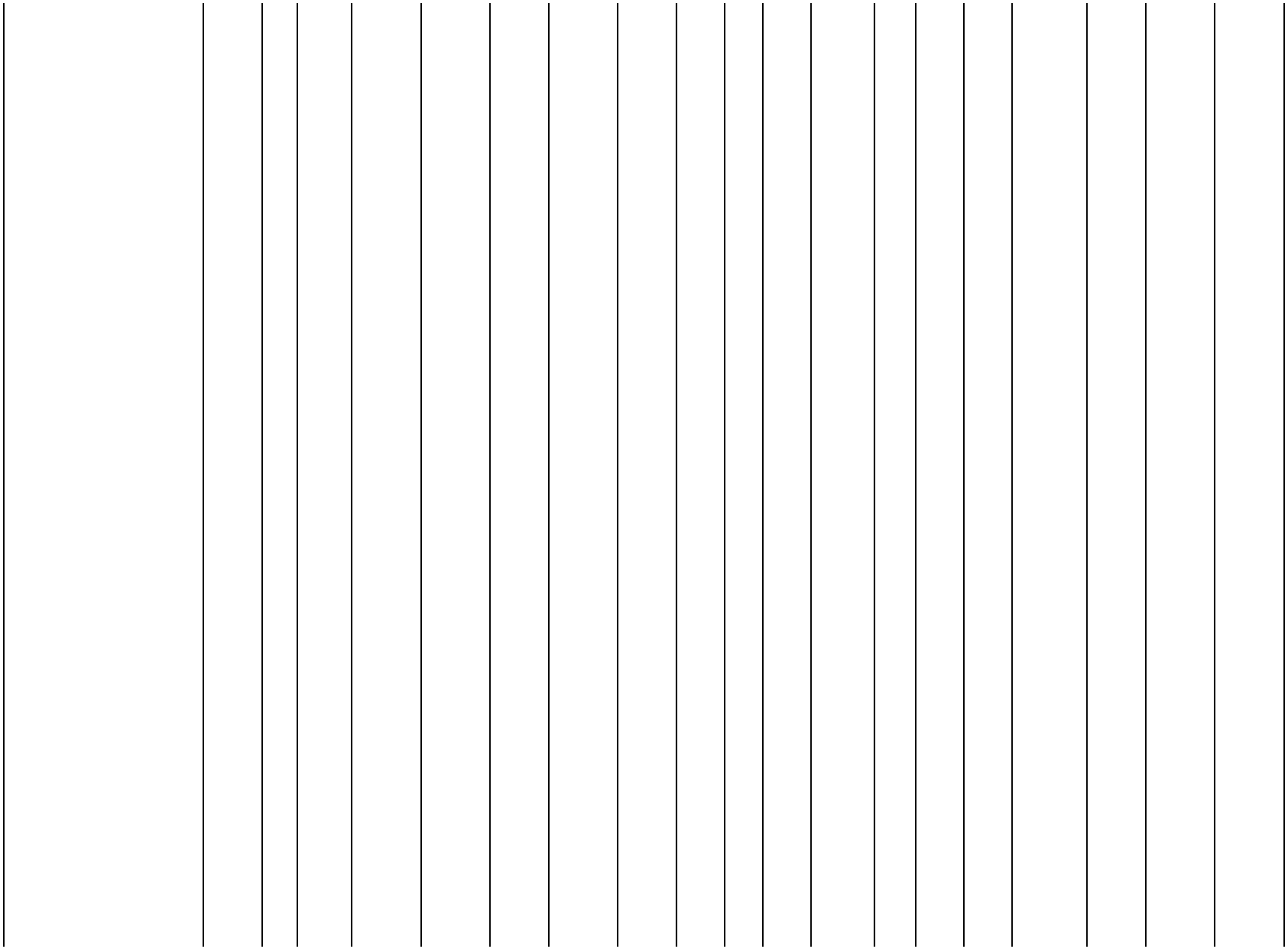

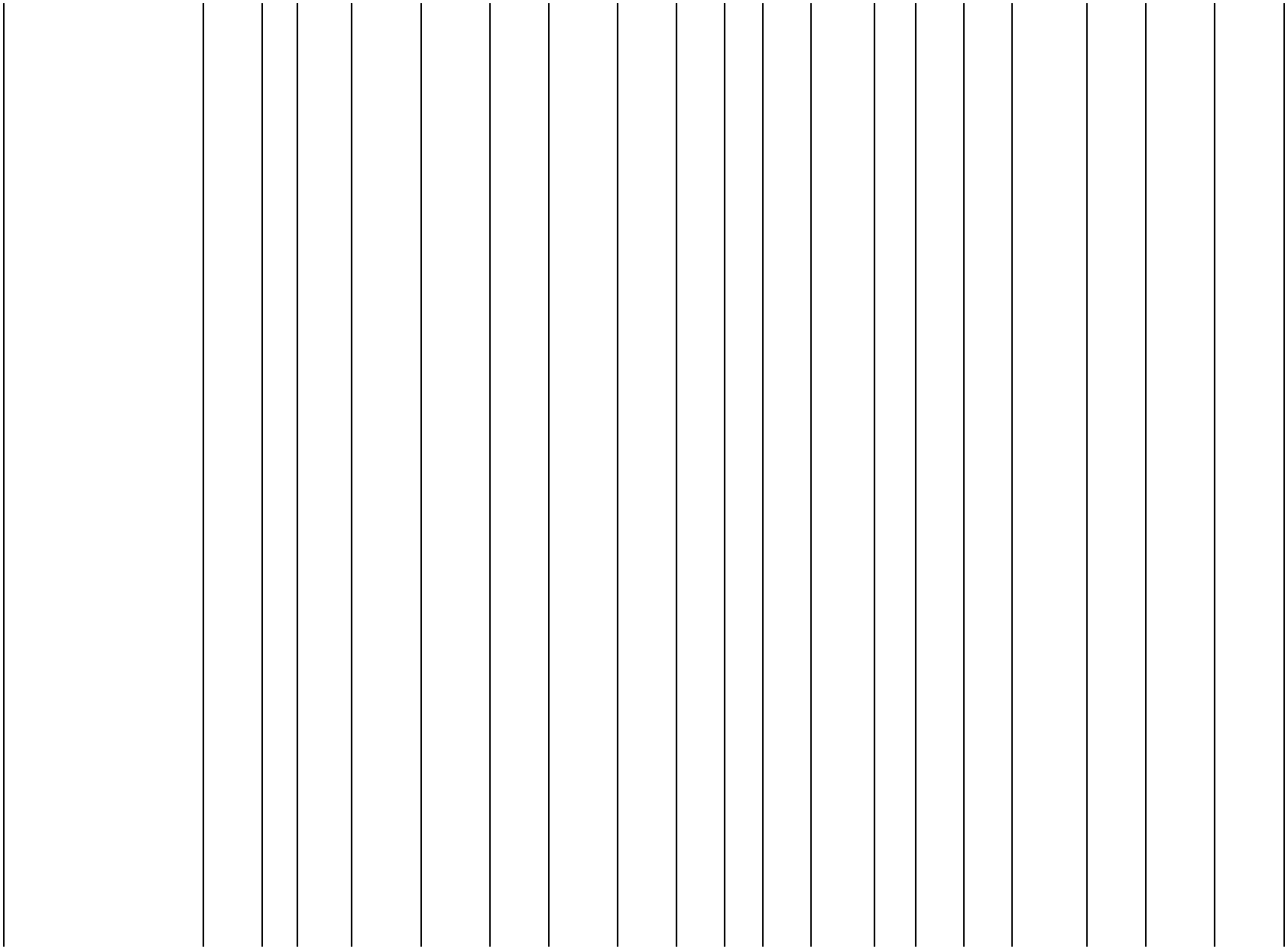

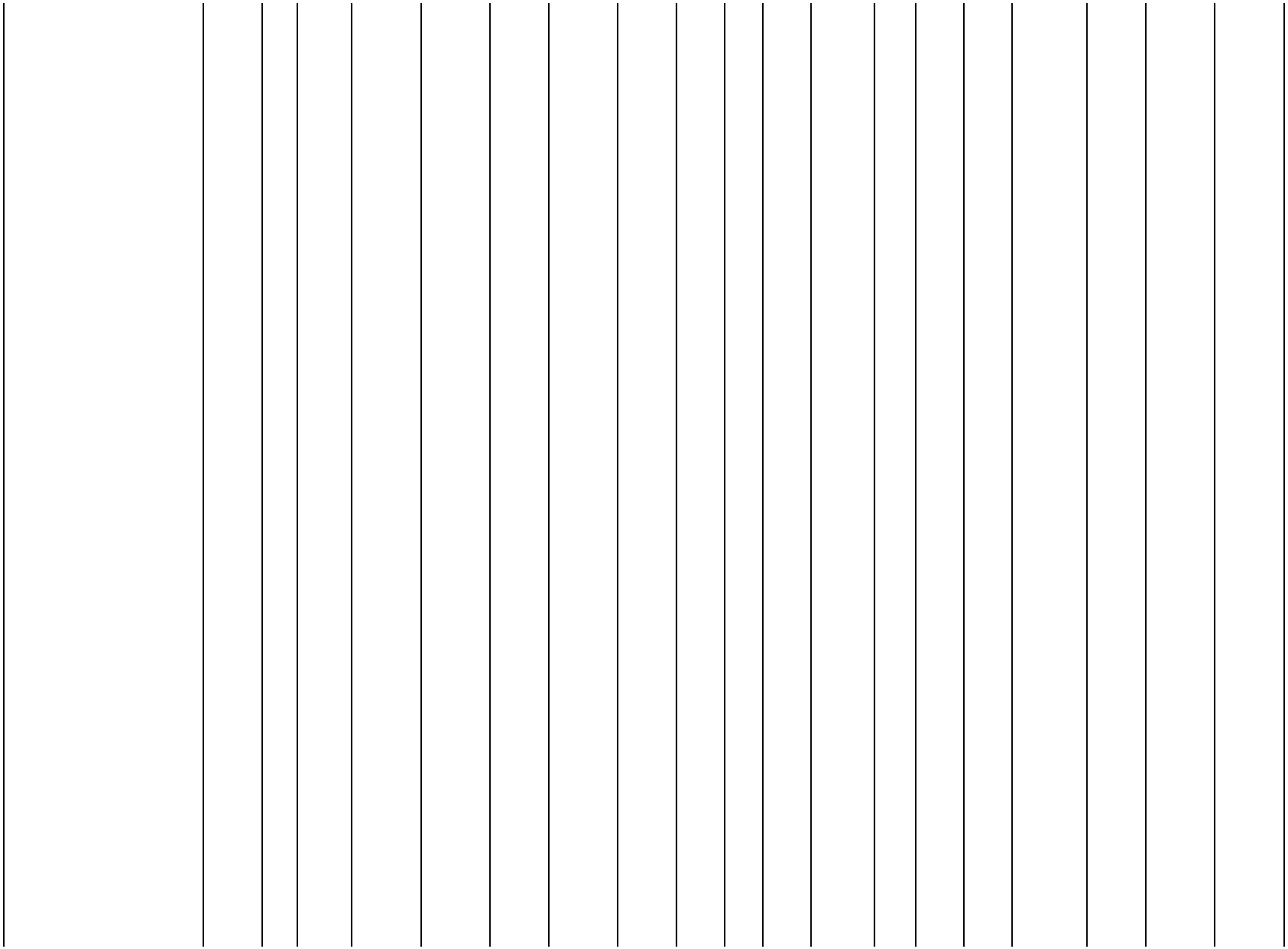

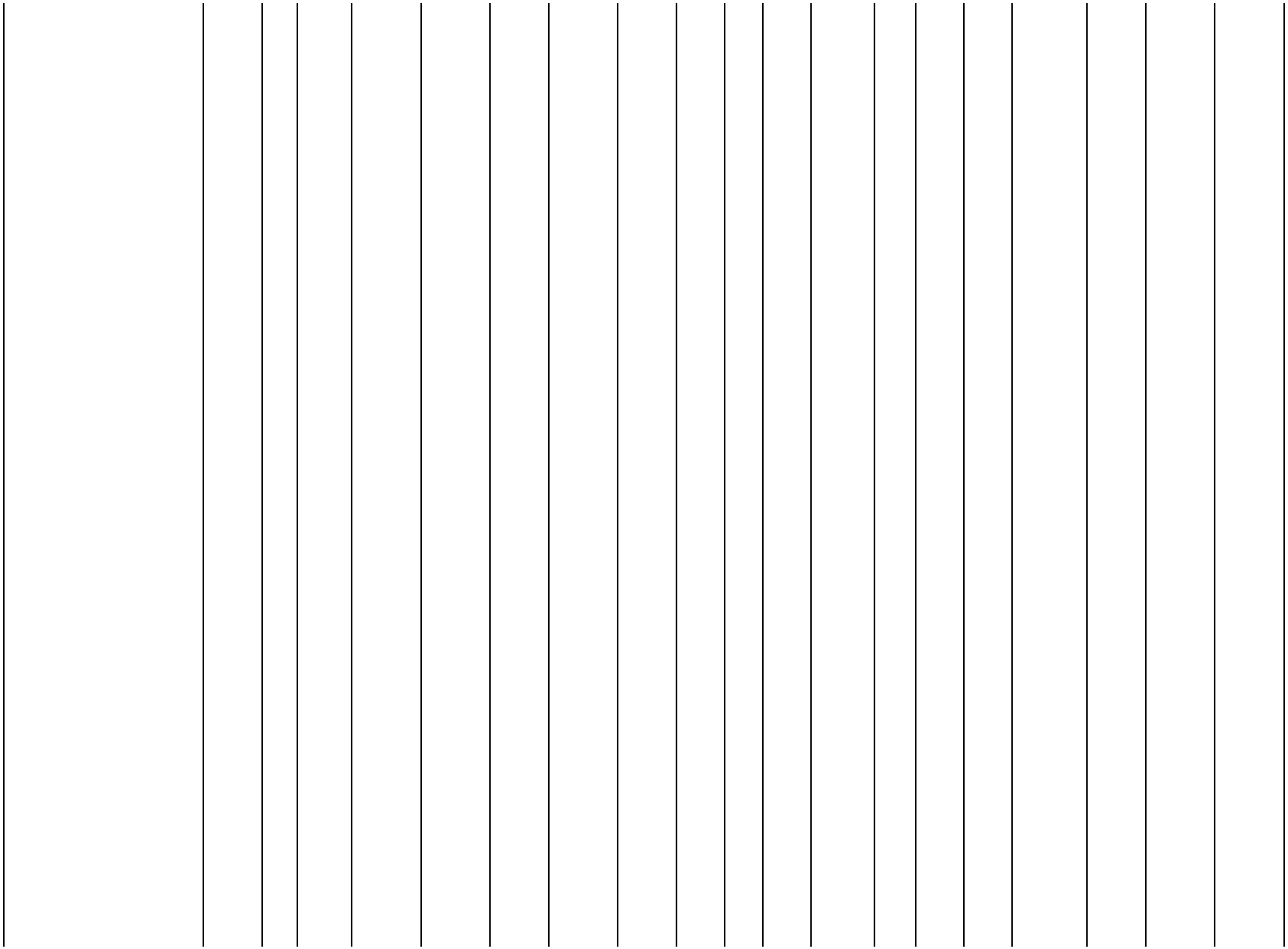

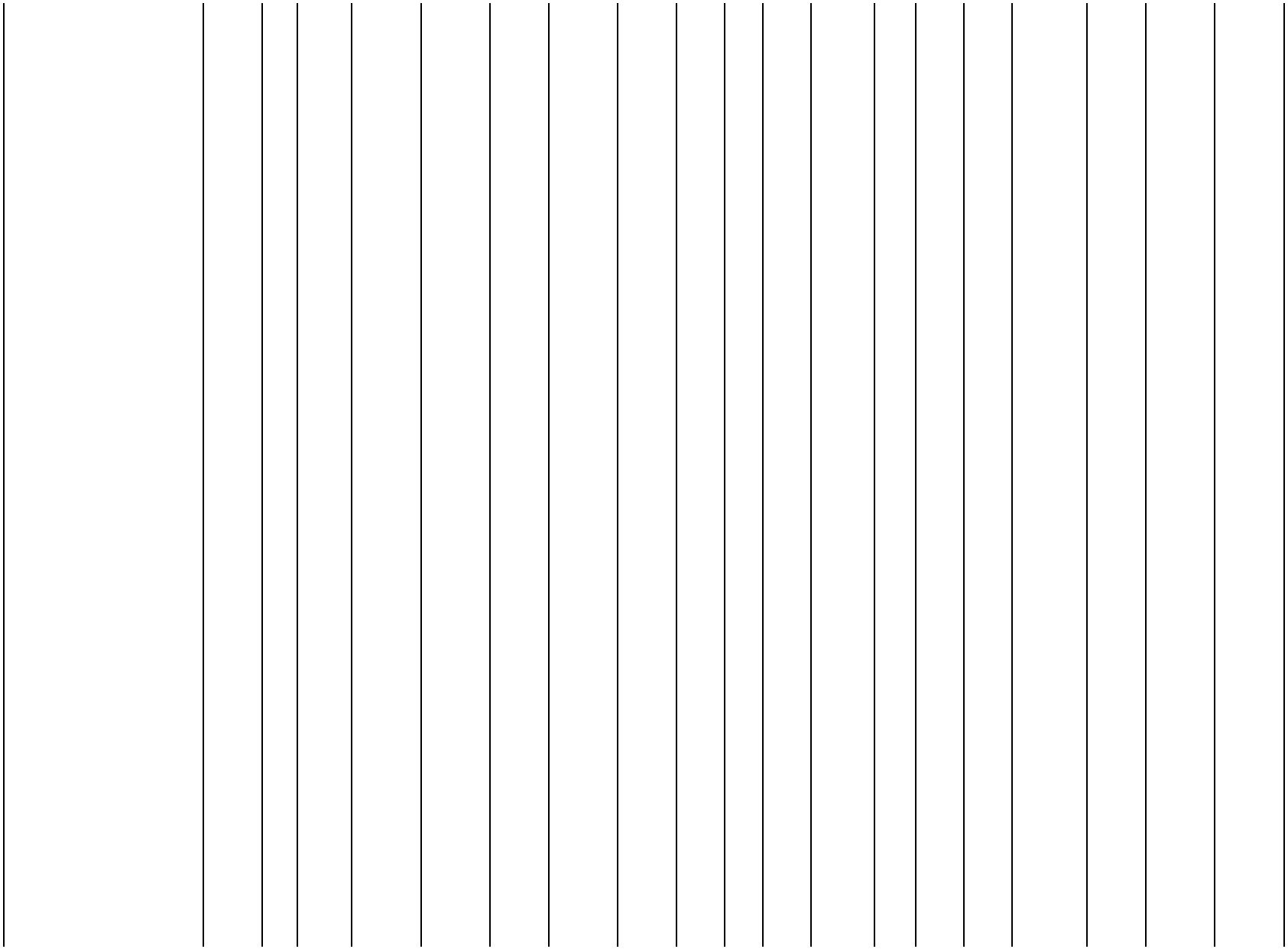

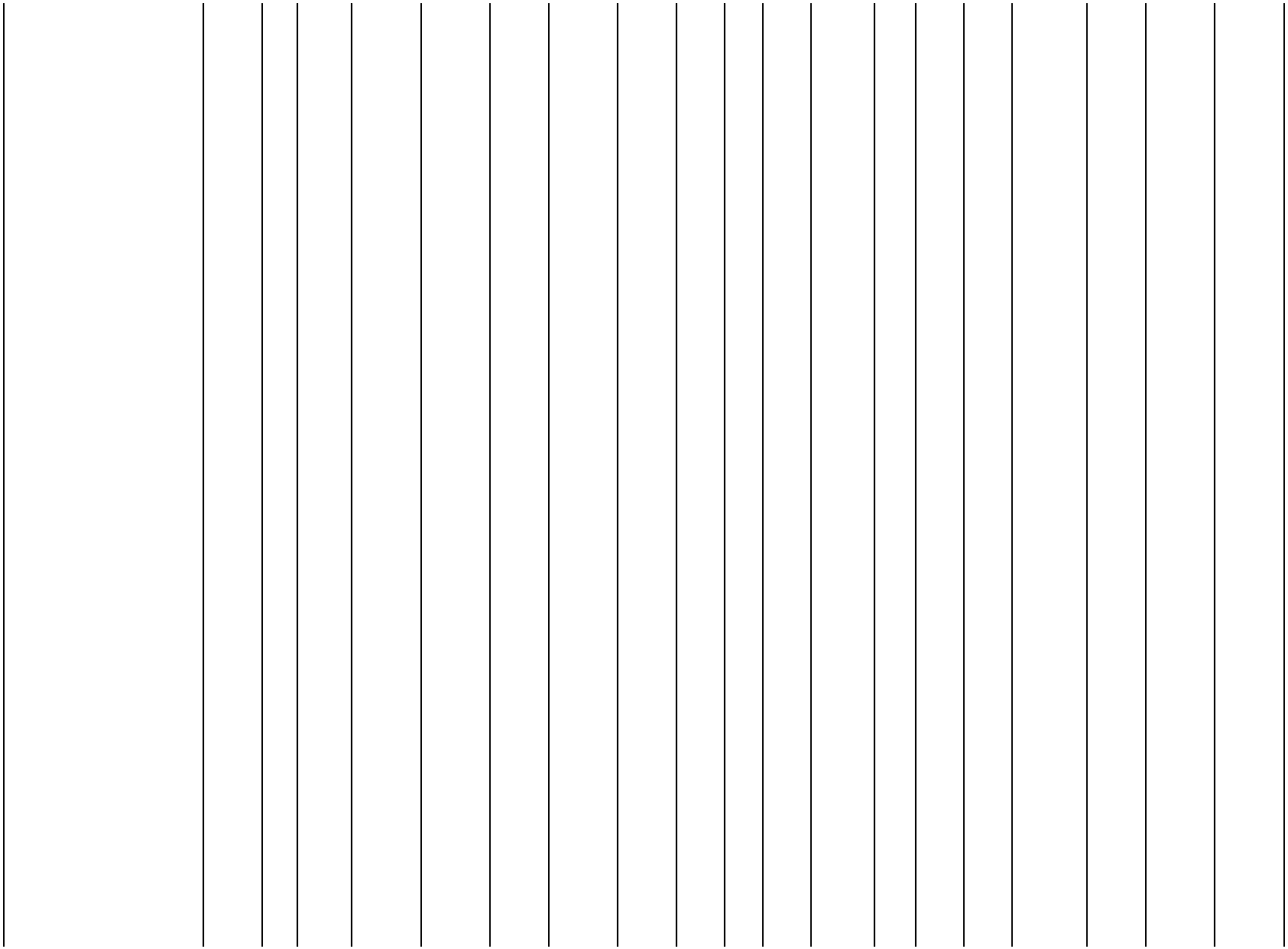

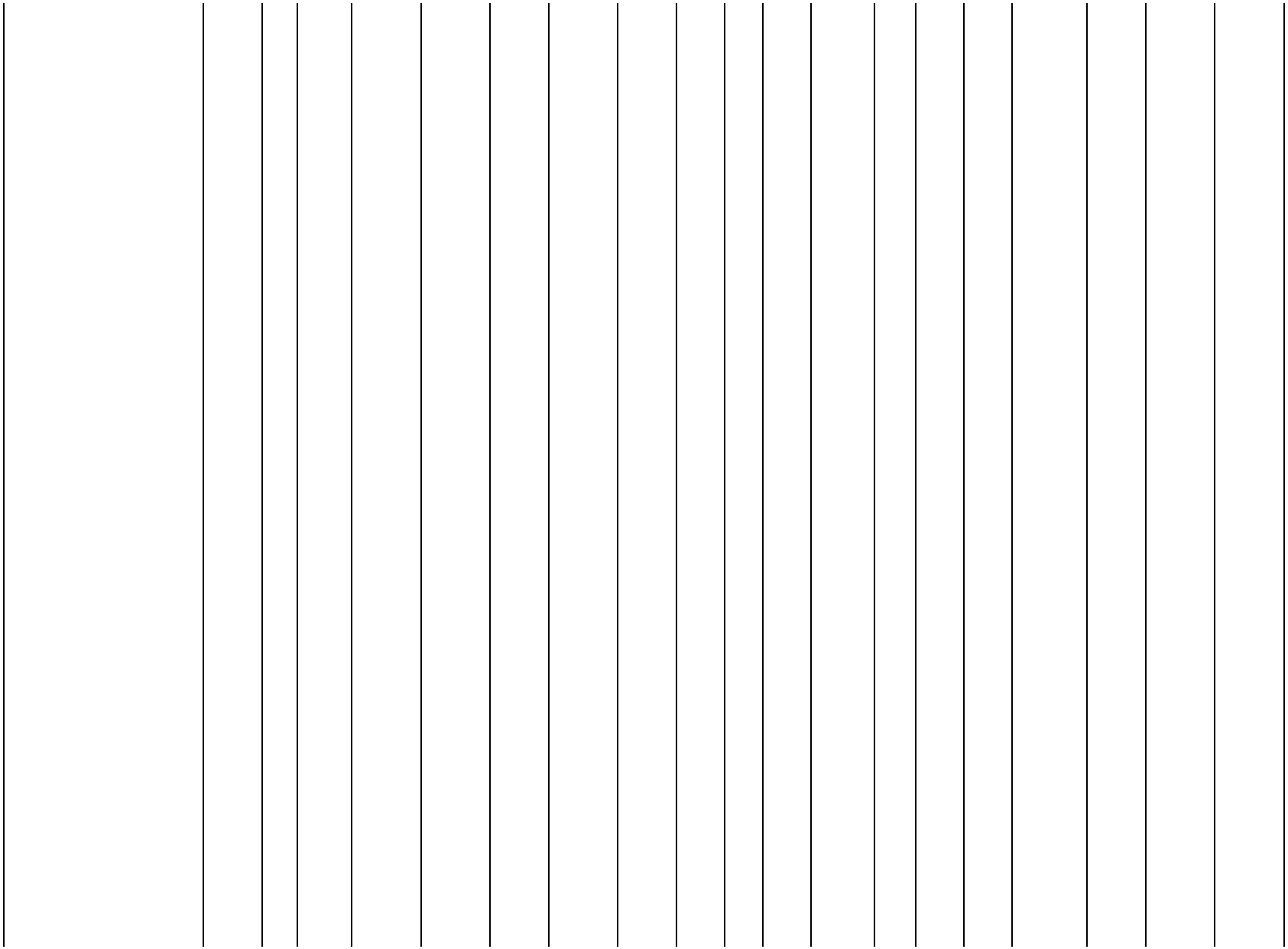

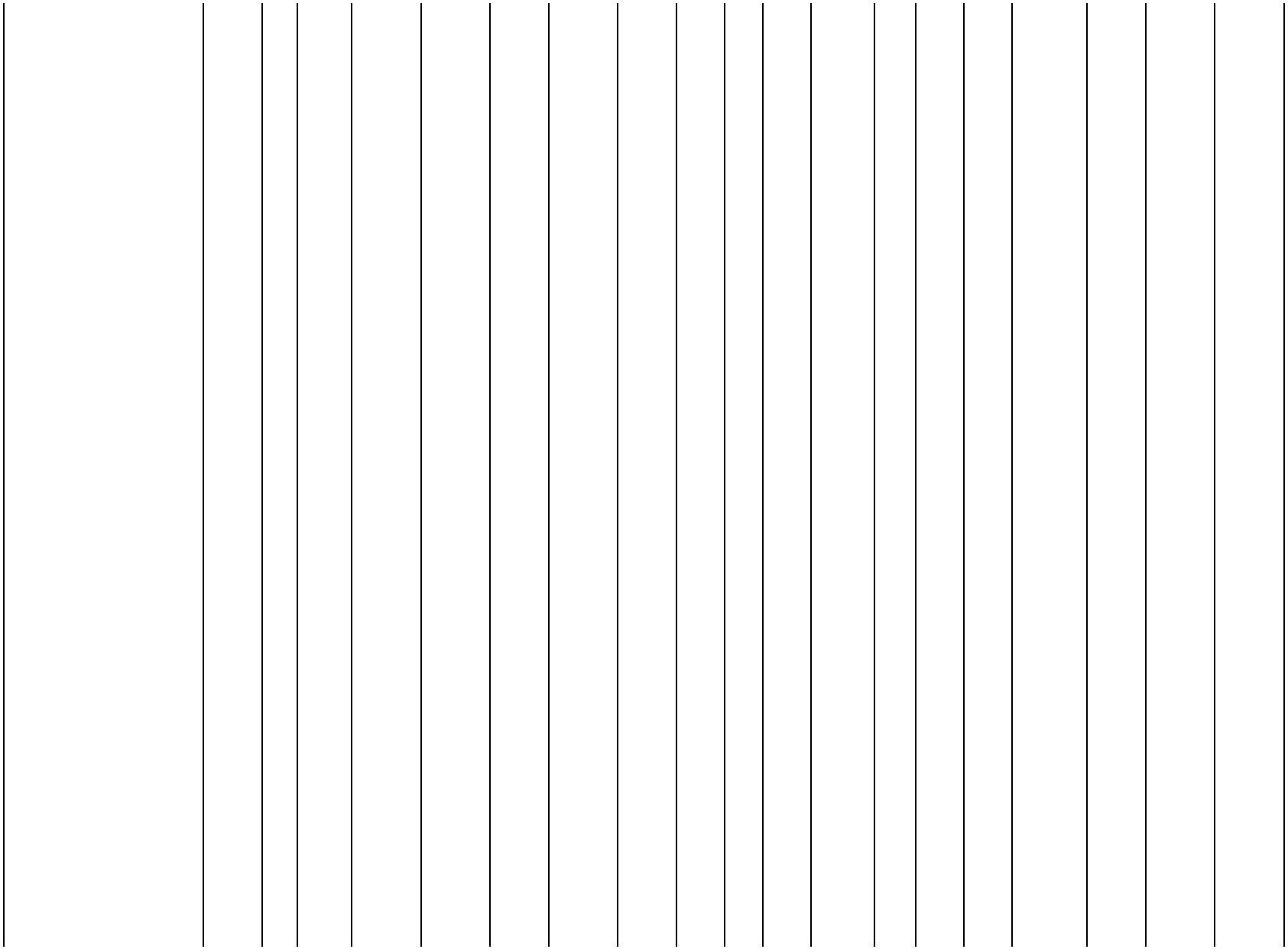

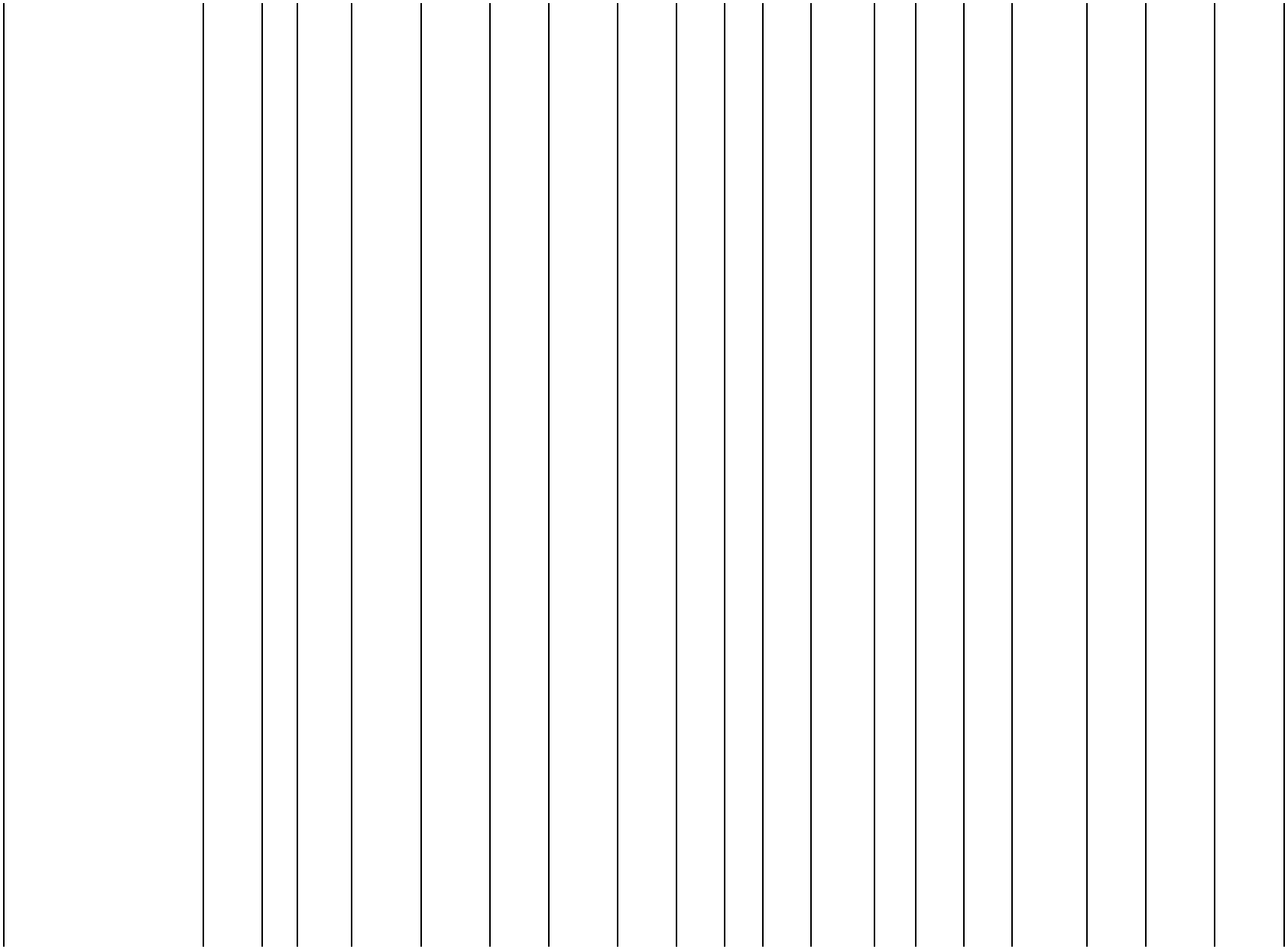

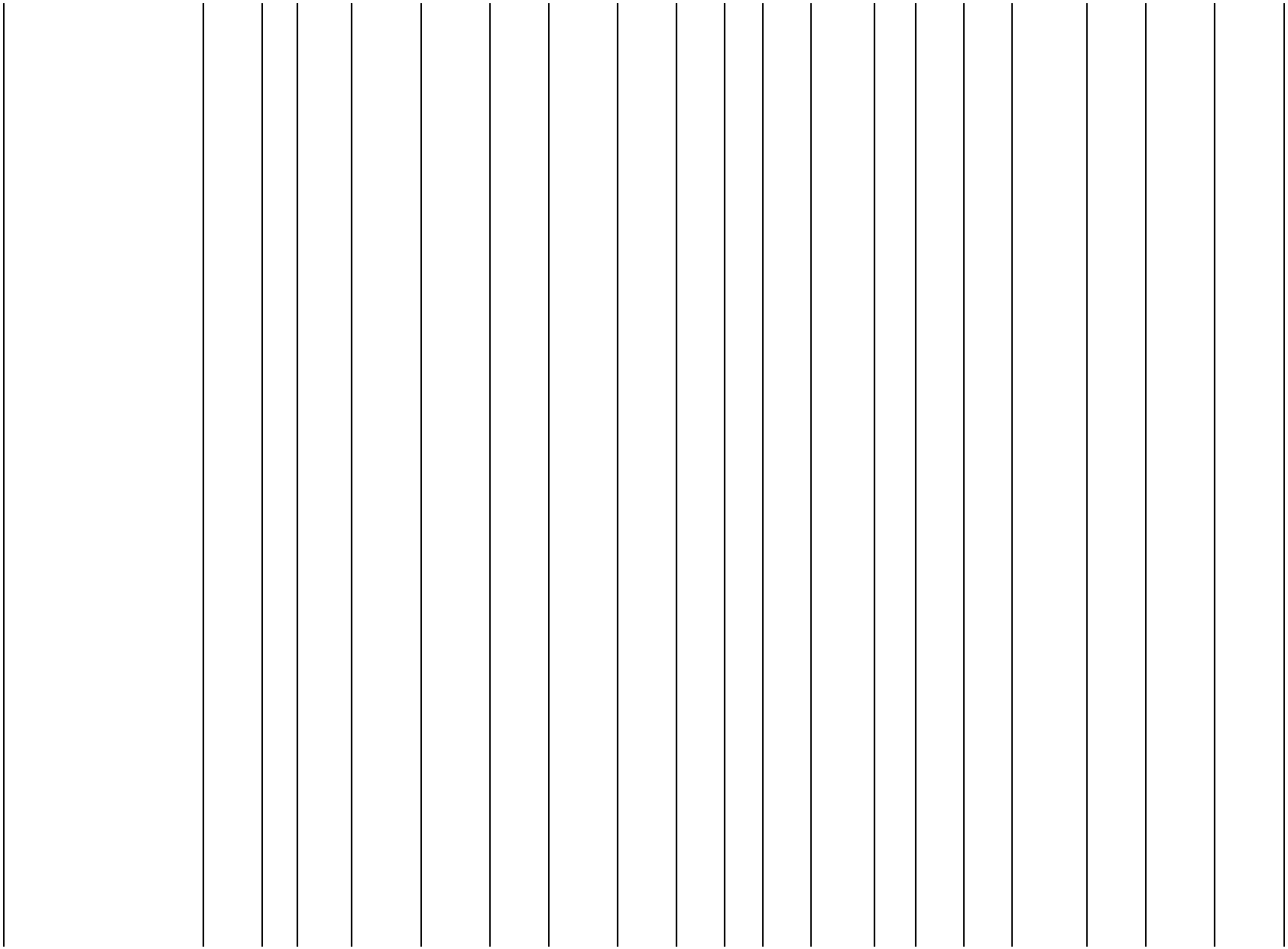

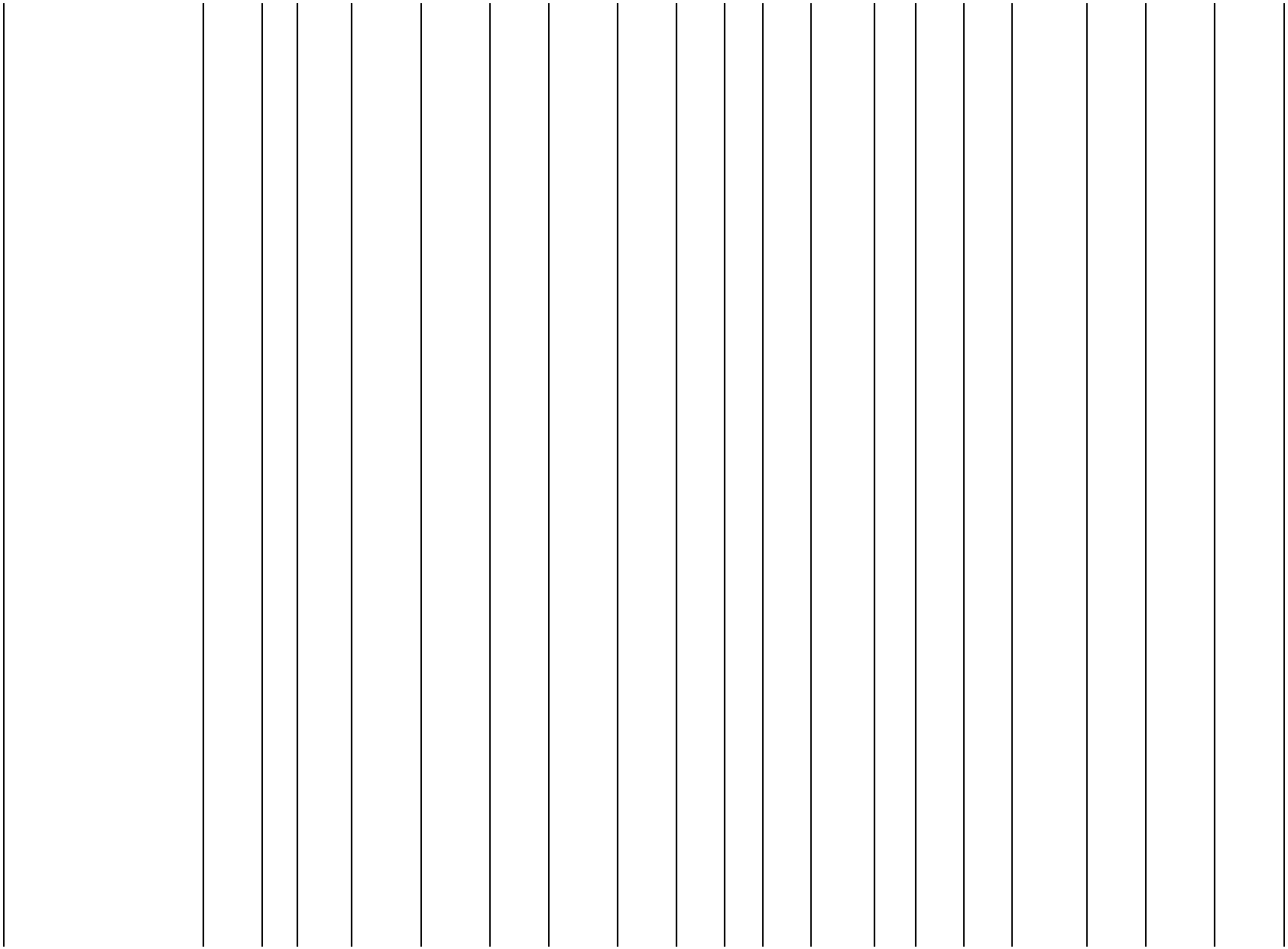

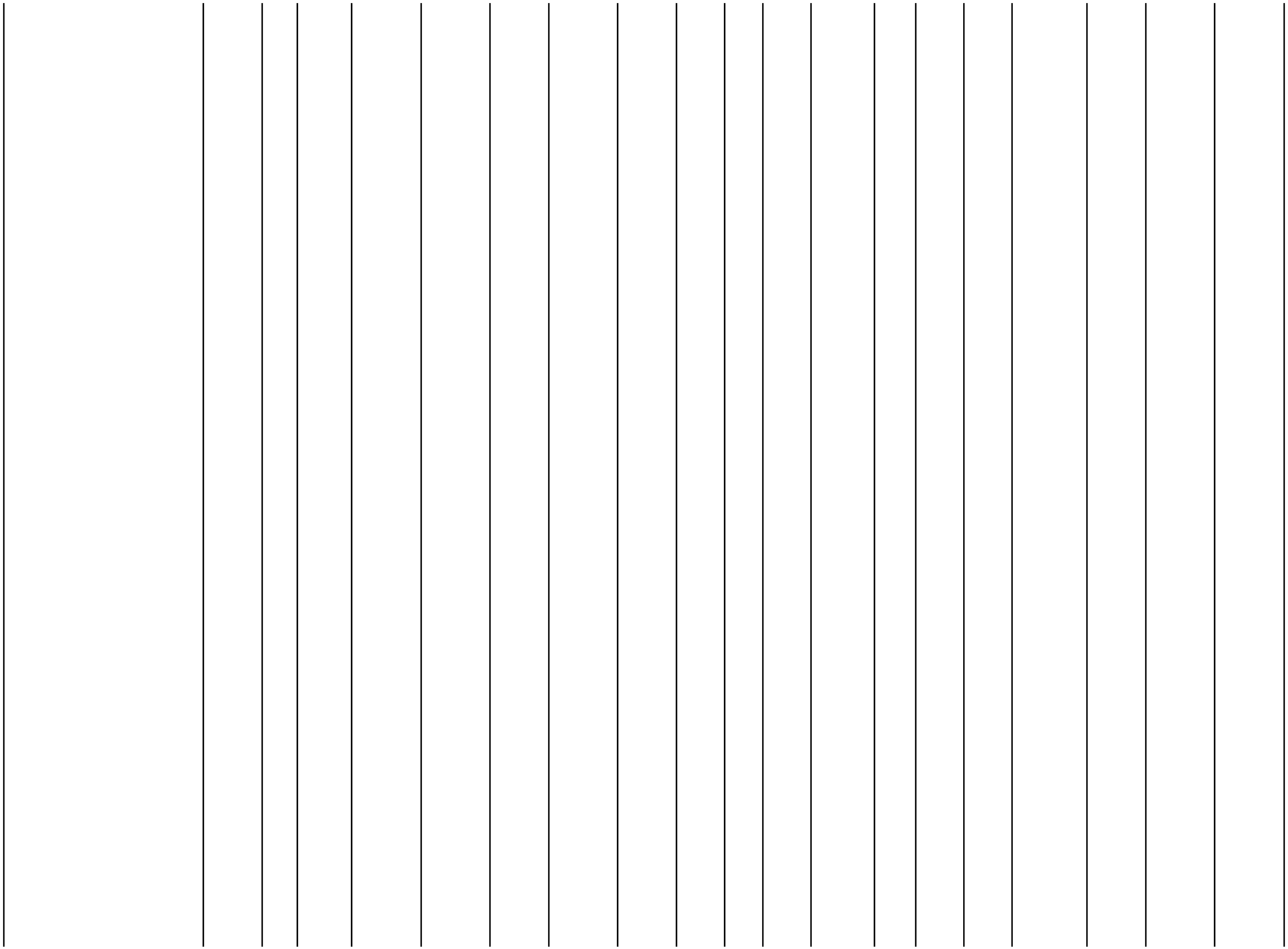

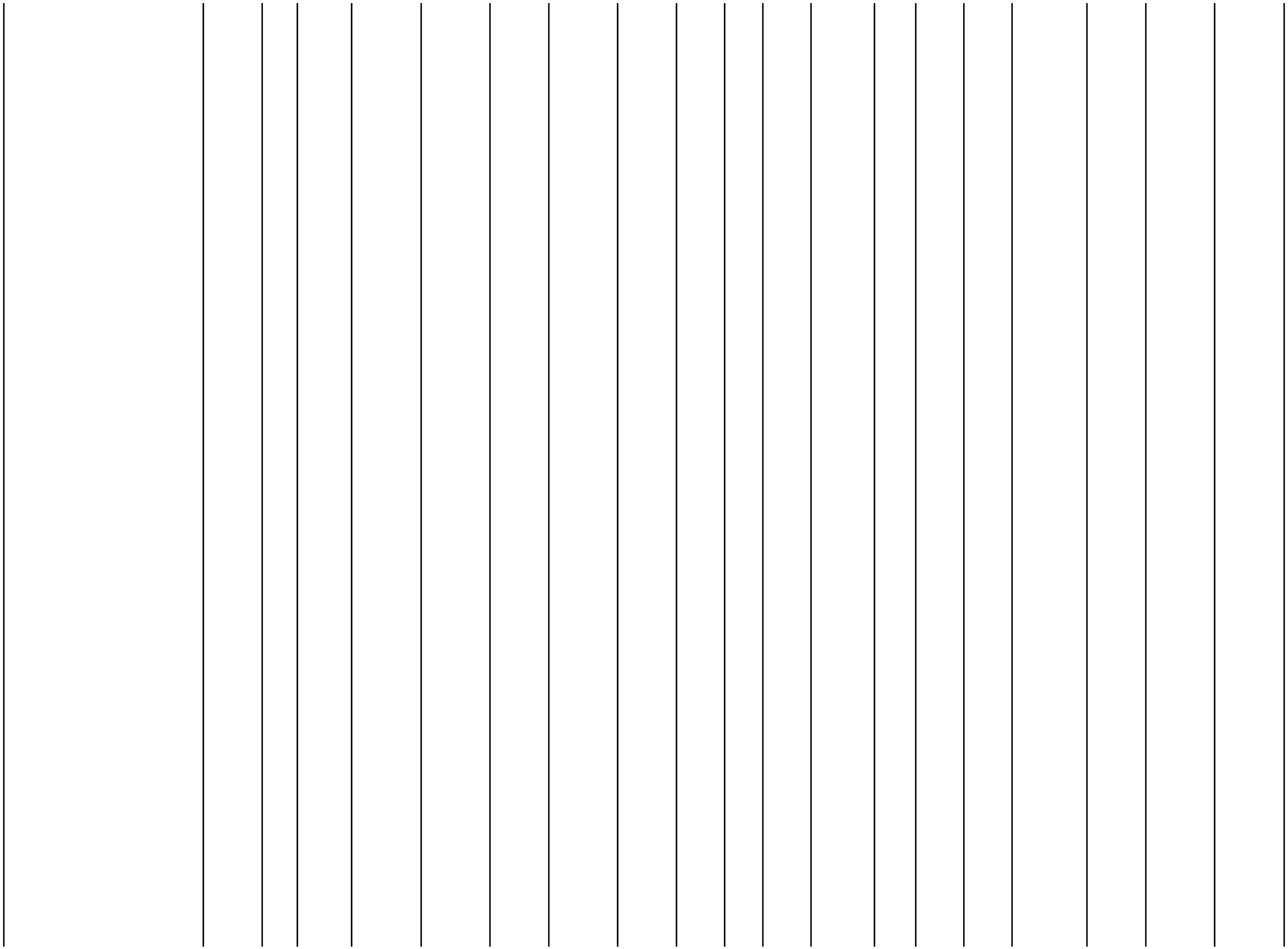

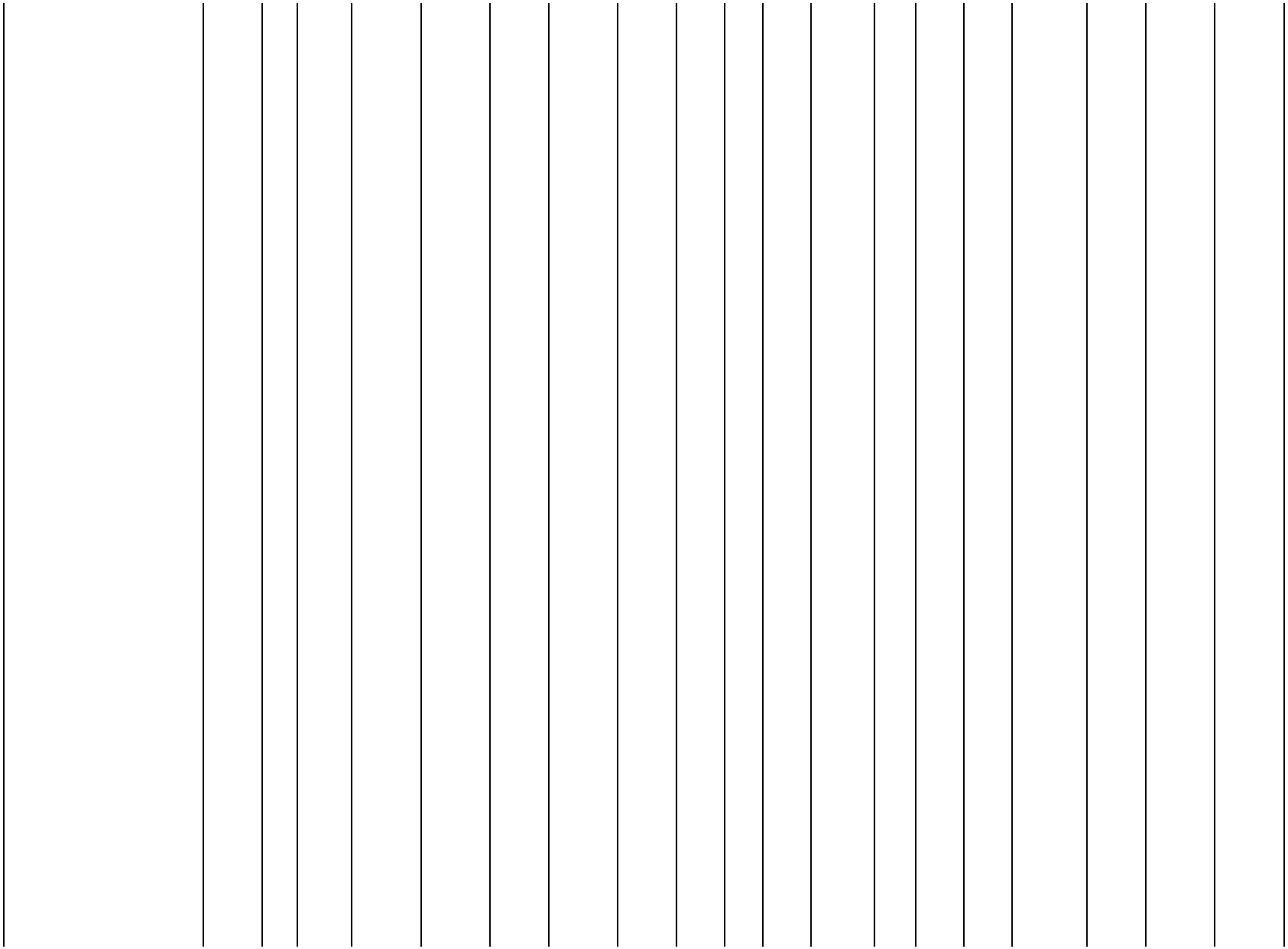

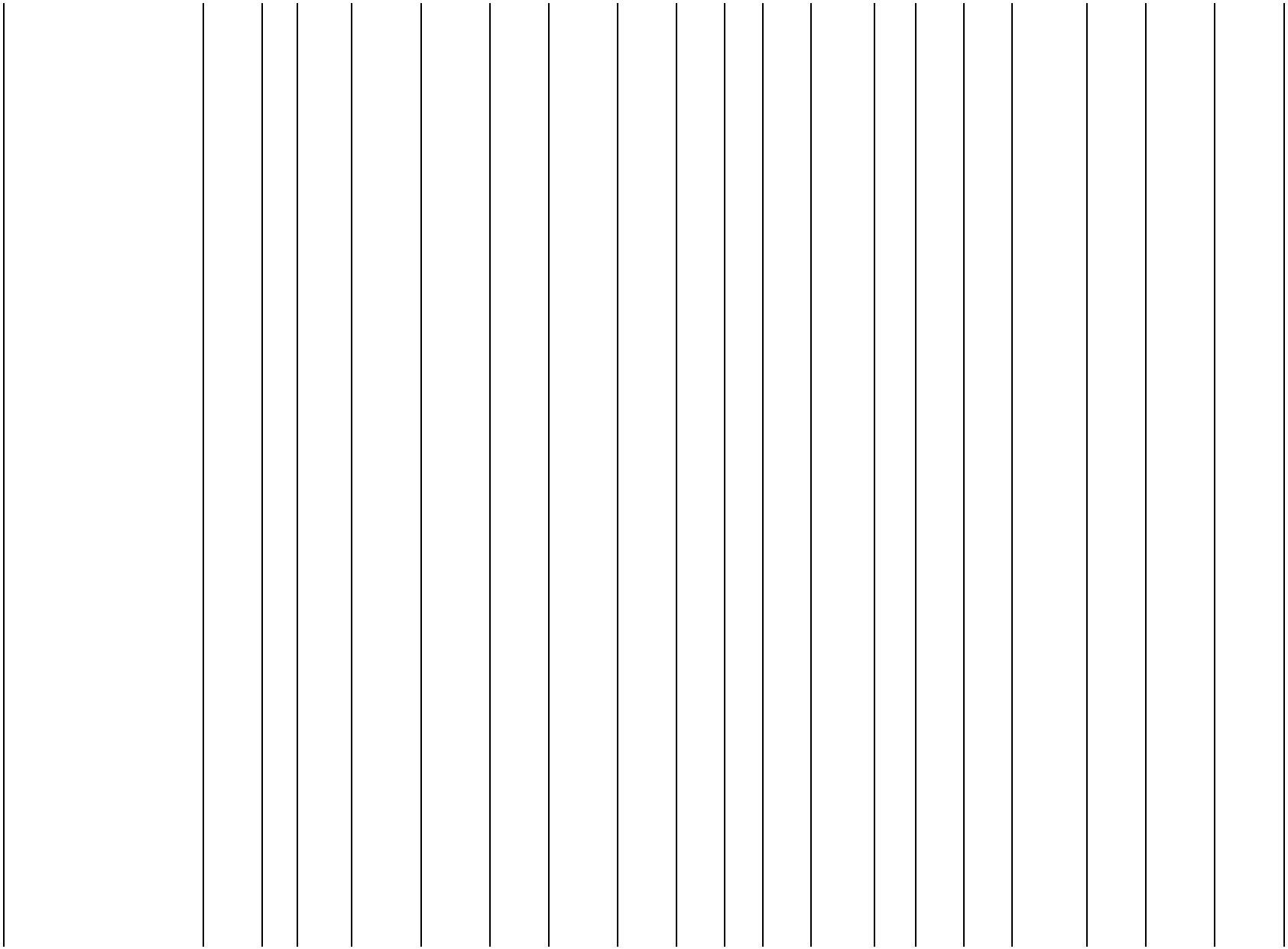

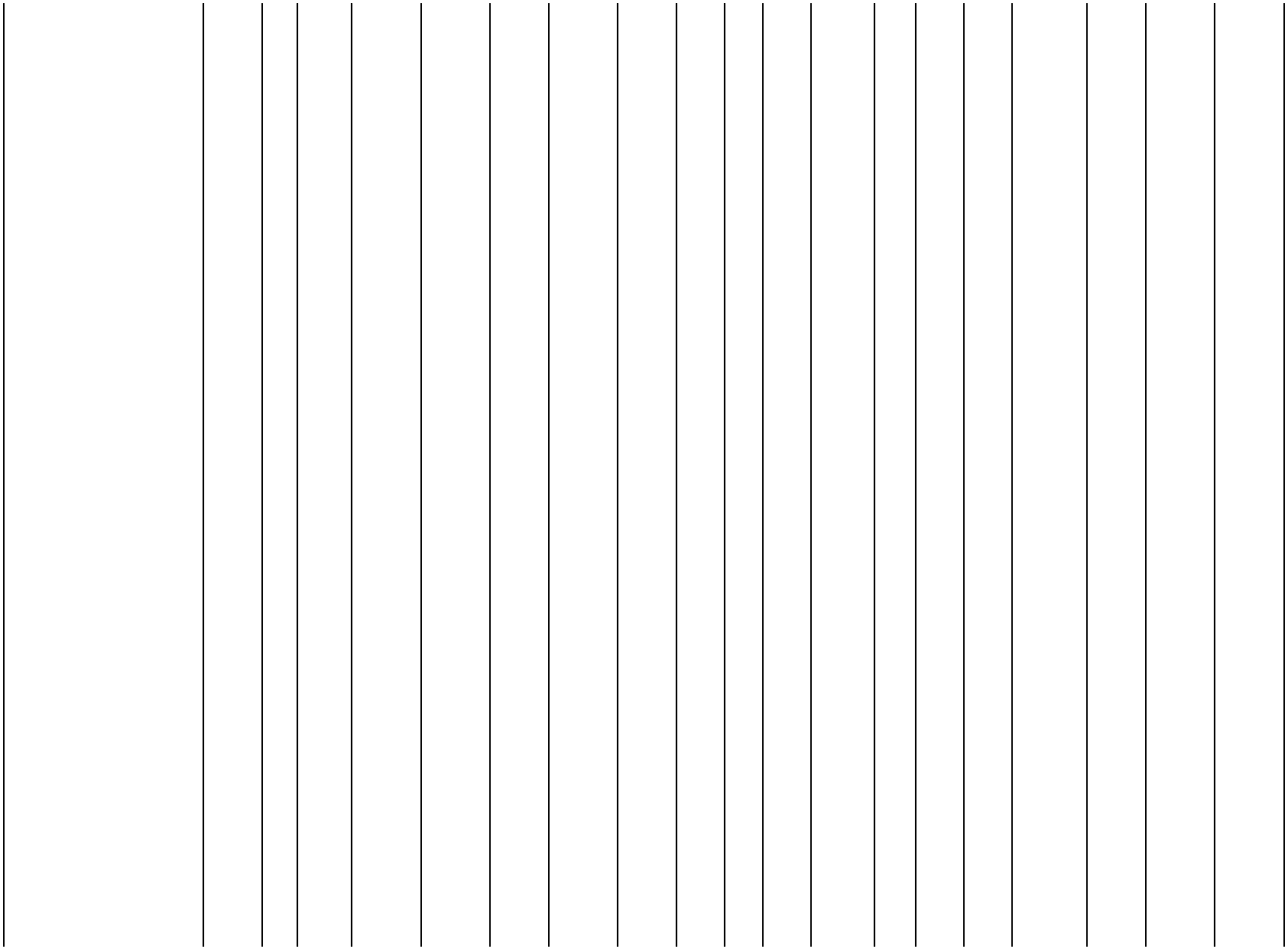

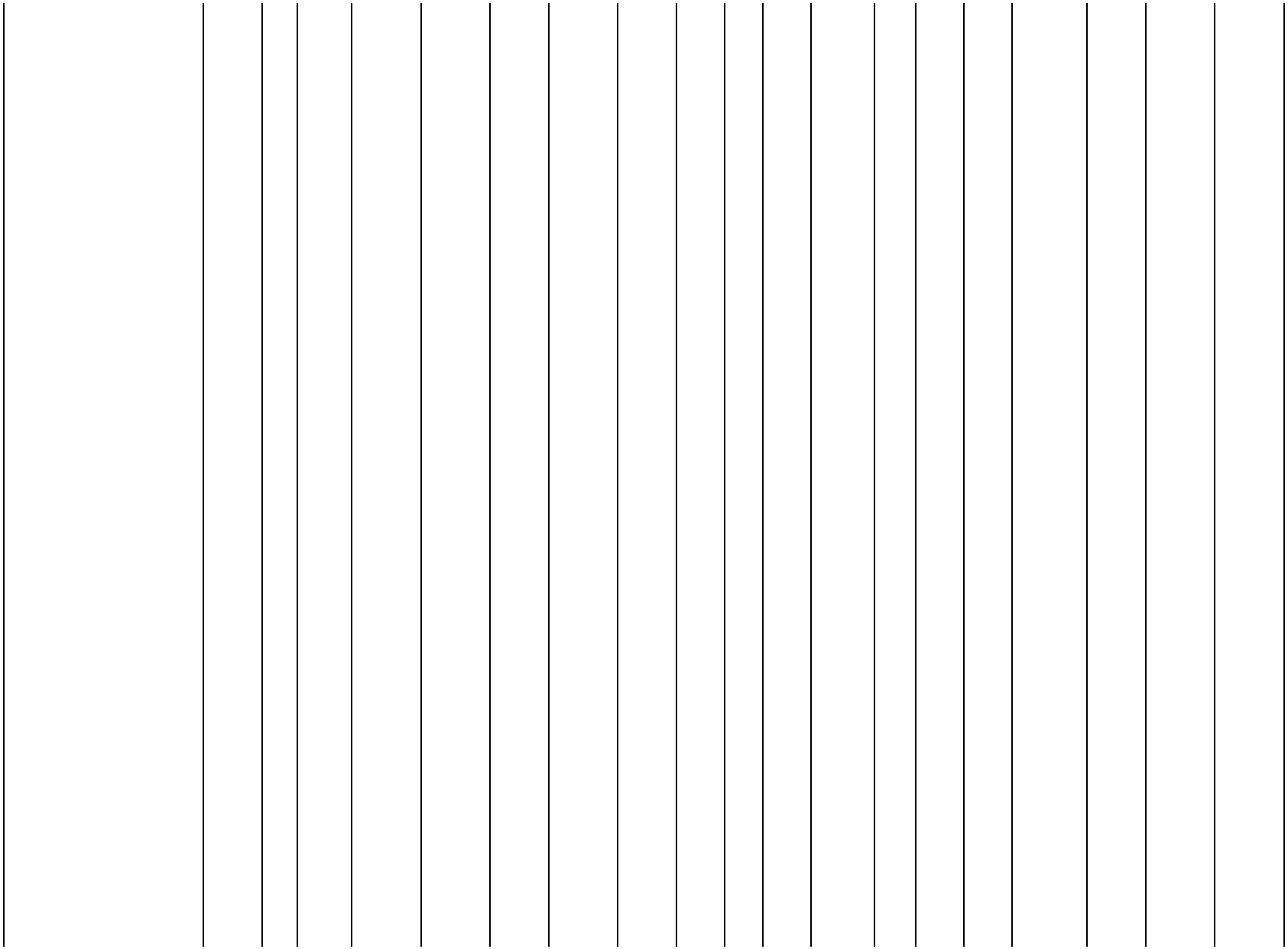

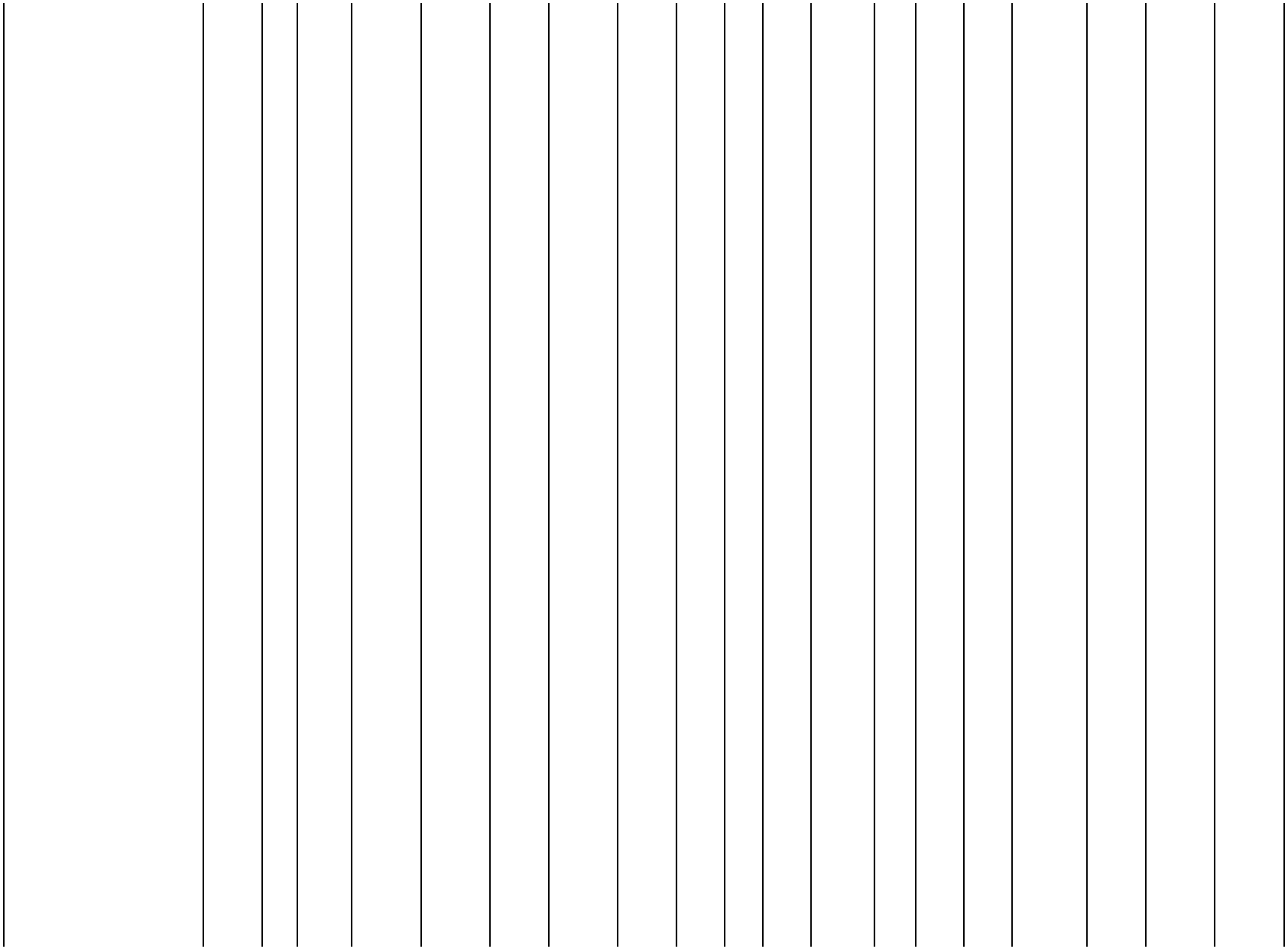

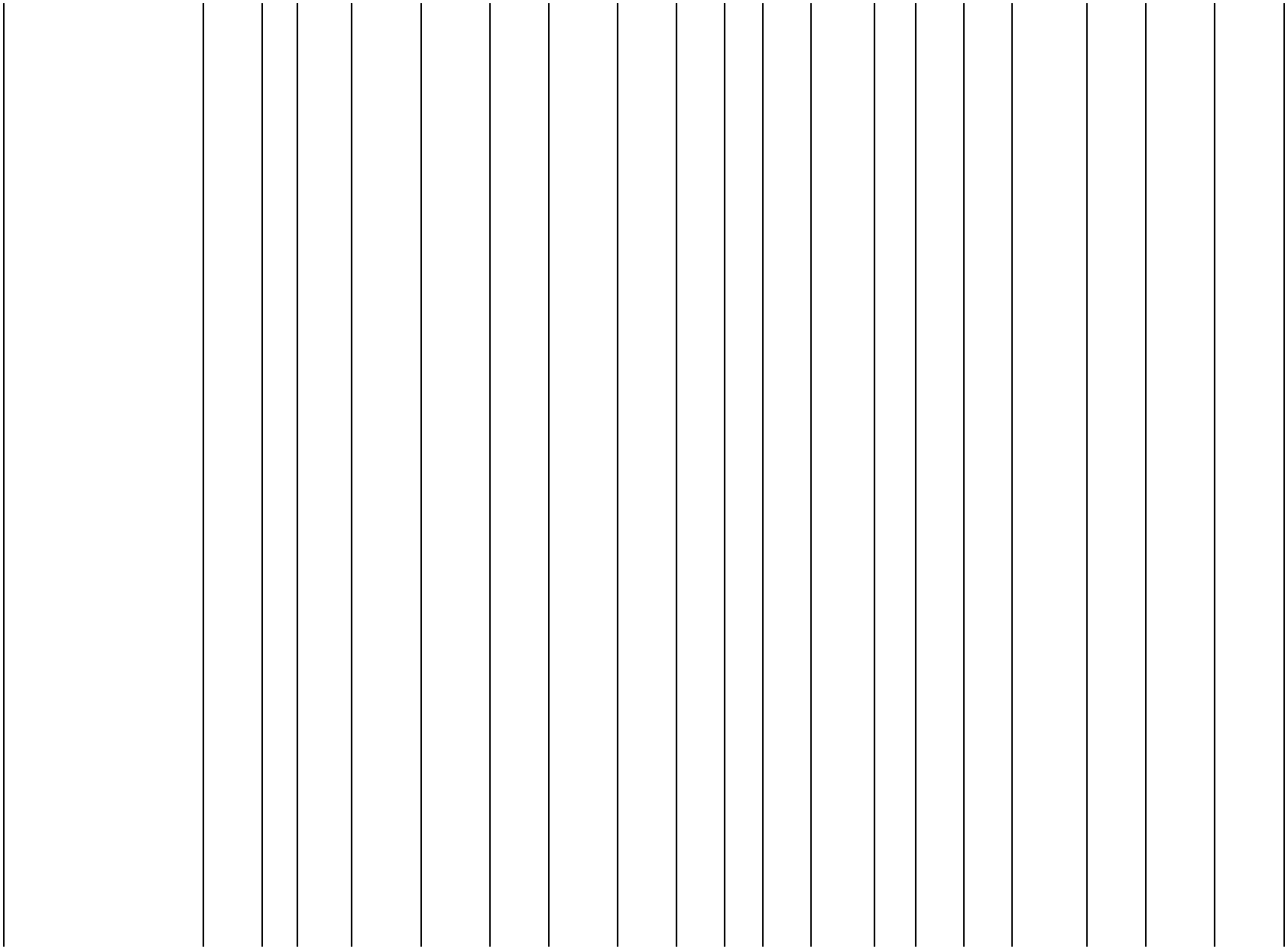

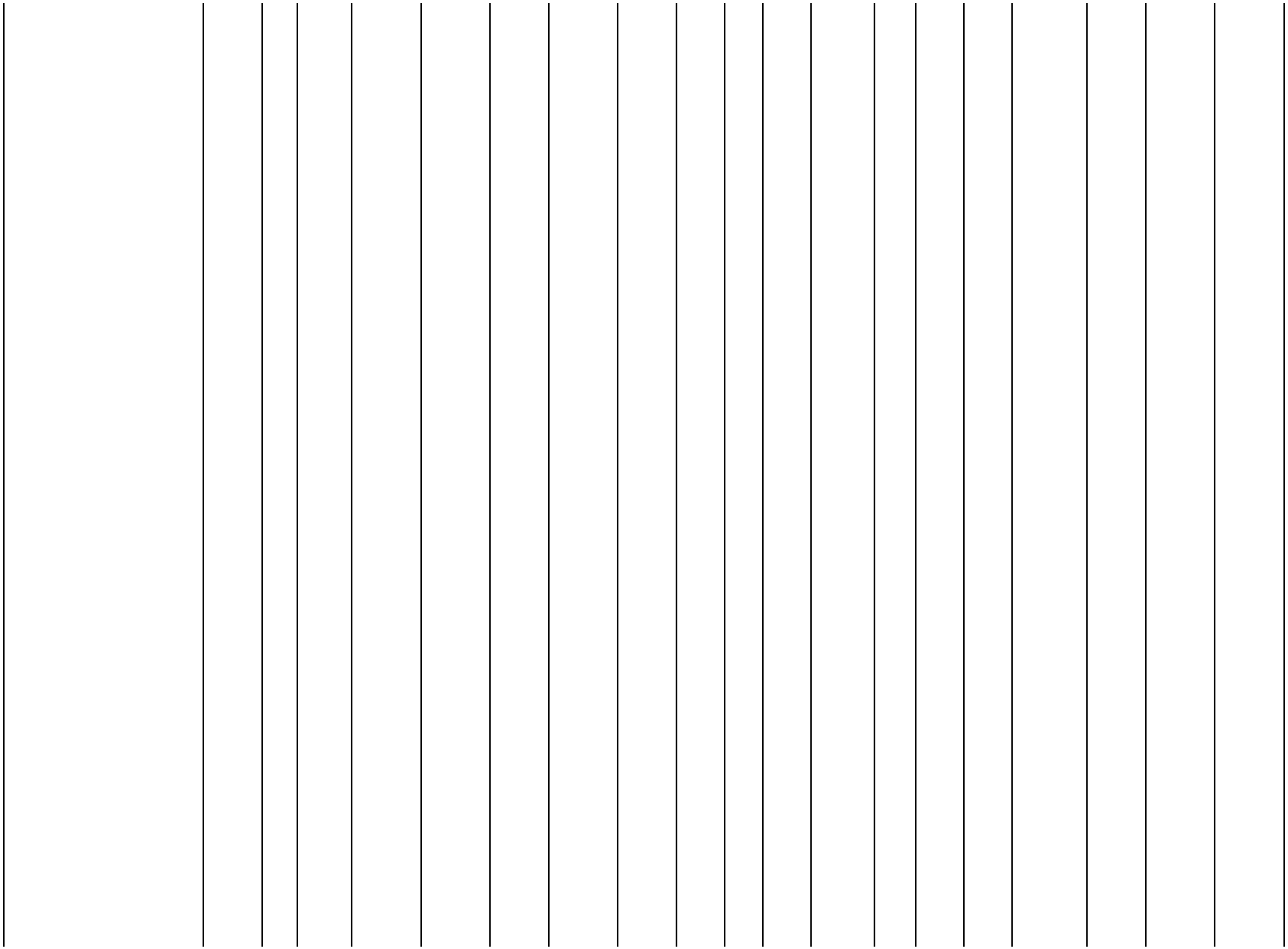

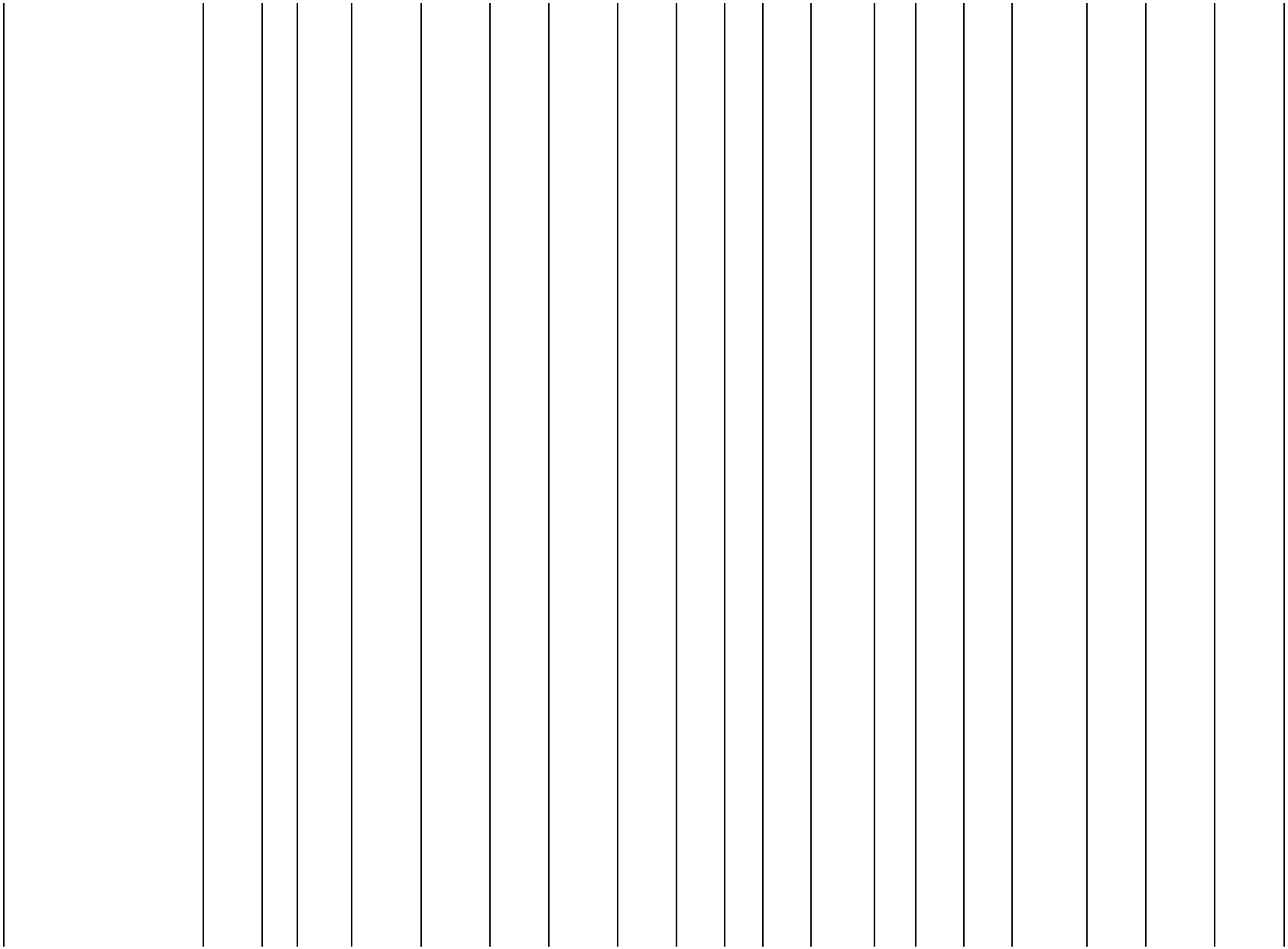

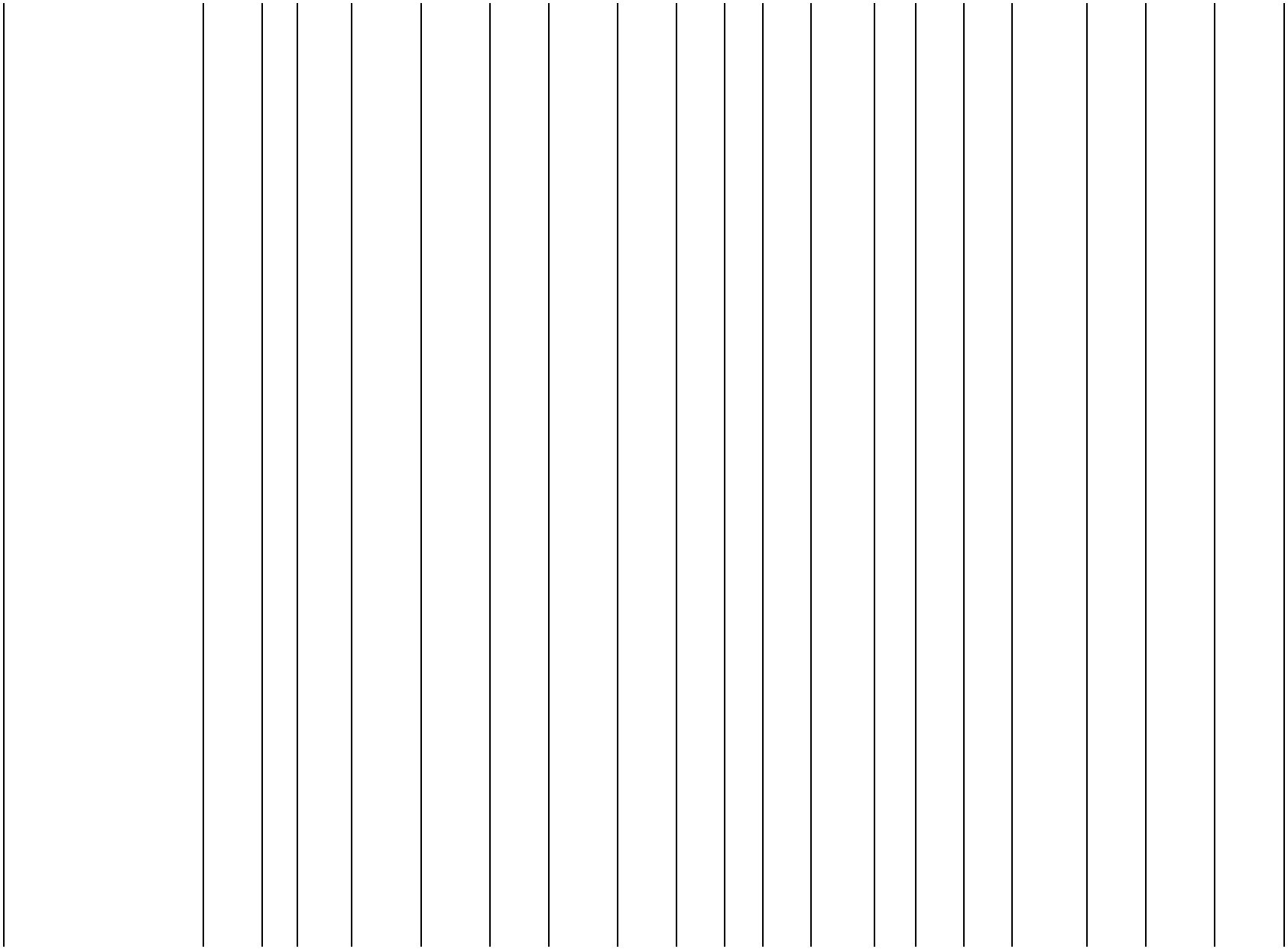

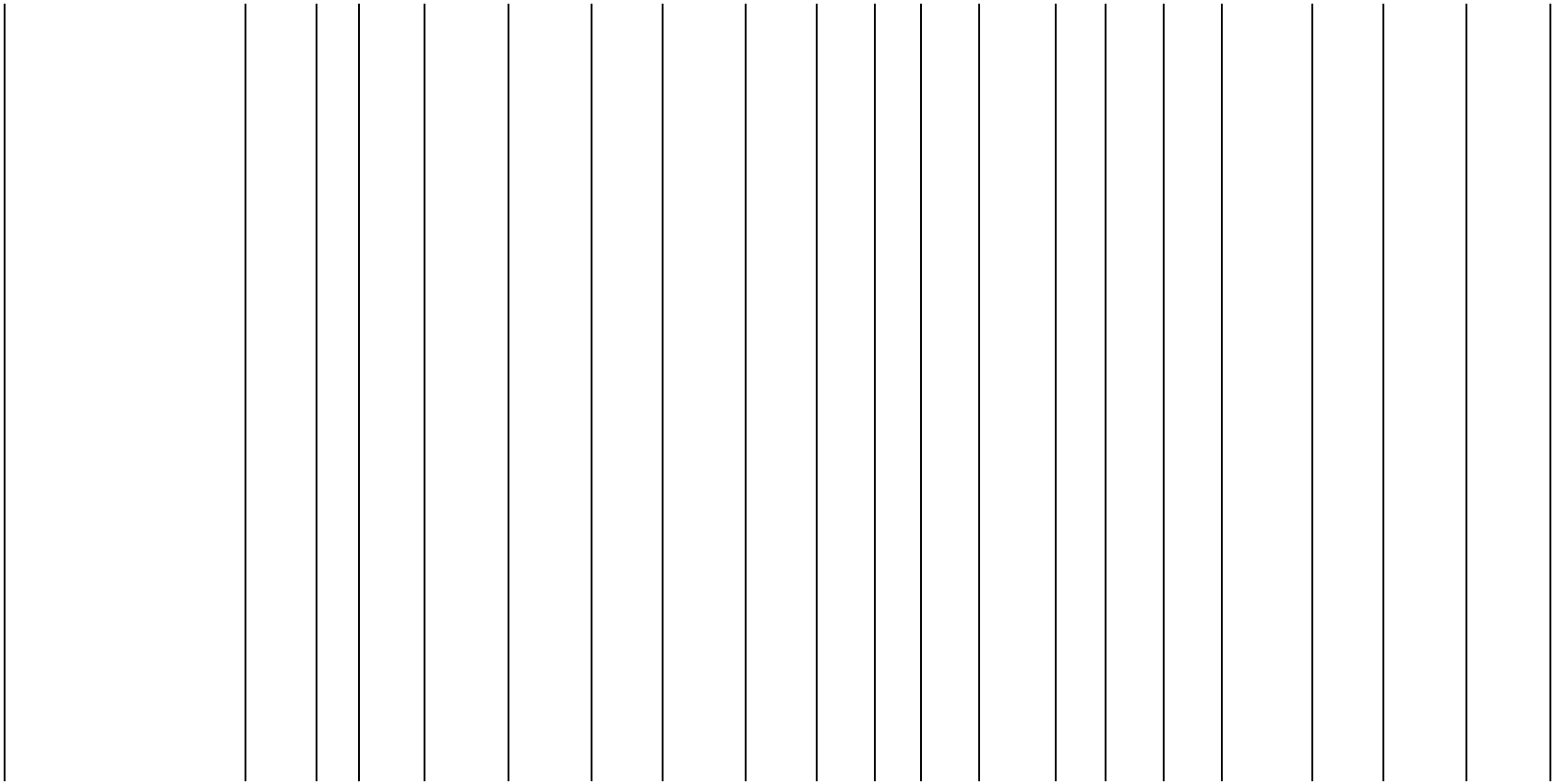

Air under Diaphragm	Sl.No.	Name	R.F.T	I.V.F	Anti-biotic	Anaesthesia	Skin Incision	Perforation size	Live omental patch	bowel sounds	R.T. removal	D.T. removal	Complecation	Outcome
YES	1	SURESH	Normal	5.O	c,g,m	GA	UML	0.5	y	2	5	6	-	good
YES	2	SUBRAMANIAN	Normal	4.O	c,g,m	GA	UML	1	y	3	6	7	-	good
YES	3	KARUNANIDHI	Normal	5.O	c,g,m	EA	UML	0.5	y	3	6	6	-	good
YES	4	PERIANNAN	Normal	6.O	c,m	GA	UML	1	y	4	6	8	paralyticileus	treated
YES	5	KASI	Normal	5.O	c,m	GA	RPM	1	y	2	4	5	-	good
YES	6	MUTHUKRISHNAN	Normal	5.O	c,g,m	GA	UML	1.5	y	3	6	10	wound gap	sec.suture
YES	7	CHANDRAN	Normal	5.O	cip,m	EA	UML	2	y	2	4	5	-	good
YES	8	SARAVANAN	Normal	5.O	c,m	SA	UML	1	y	3	5	7	-	good
YES	9	THIRUNAVUKARASU	Normal	5.O	c,m	GA	UML	0.5	y	3	3	5	-	good
YES	10	LAWRENCE	Elevated	5.O	c,g,m	EA	UML	1	y	3	4	5	-	good
YES	11	CHITRA	Normal	5.o	c,m		FD		n	3	4	12	-	good
YES	12	MURUGAN	Normal	4.O	c,m	GA	UML	0.5	y	2	4	7	-	good
YES	13	GOPALAKRISHNAN	Normal	5.O	c,g,m	GA	UML	1	y	4			septicaemia	death
YES	14	CHANDRASEKARAN	Normal	5.O	c,m	SA	RPM	0.5	y	2	5	6	-	good
NO	15	KARUPPAN	Normal	6.O	c,g,m	GA	UML	0.5	y	2	4	5	-	good
YES	16	RAVI	Normal	5.O	c,g,m	EA	UML	1	y	2	3	4	-	good
YES	17	KRISHNAN	Normal	4.O	c,g,m	SA	UML	1	y	4	5	5	-	good
YES	18	RUKMANI	Elevated	5.O	c,m		FD						sepsis	death
YES	19	BABU	Normal	5.O	cip,m	GA	UML	1	y	2	3	5	-	good
YES	20	KARUNANIDHI	Normal	5.O	c,g,m	GA	UML	1.5	y	2	3	6	-	good
YES	21	GANESAN	Normal	5.O	c,g,m	SA	UML	0.5	y	2	4	5	-	good
YES	22	SHANTHI	Elevated	5.O	c,g,m	SA	UML	2	y	3	5	7	wound inf	treated
YES	23	PITCHAI	Normal	4.O	c,g,m	SA	UML	1	y	3	5	7	-	good
YES	24	SUBRAMANIAN	Normal	5.O	c,g,m	SA	UML	1	y	3	5	6	-	good
YES	25	DURAISAMY	Normal	4.O	c,m	EA	UML	0.5	y	3	4	5	-	good
YES	26	RAJARAJAN	Normal	5.O	c,m	SA	UML	1	y	2	4	6	-	good
YES	27	GNANASELVAM	Normal	5.O	cip,m		FD		n				sepsis	death
YES	28	PALANIAMMAL	Elevated	5.O	c,g,m	SA	UML	1	y	3	4	6	-	good
YES	29	SANGEETHA	Normal	5.O	c,g,m	EA	RPM	1	y	2	4	7	wound inf	treated
YES	30	SATHYAMOORTHI	Normal	5.O	c,m	GA	UML	1.5	y	3	4	6	-	good
YES	31	ANWAR	Elevated	5.O	c,m		FD		n				sepsis	death
YES	32	MAYILVANNAN	Normal	5.O	c,g,m	SA	UML	3	y	3	3	5	-	good
YES	33	KARUPPAN	Normal	5.o	c,g,m	SA	UML	1	y	3	4	6	-	good
YES	34	JOSEPH	Normal	4.O	c,m	EA	UML	0.5	y	2	3	5	-	good
YES	35	ARJUNAN	Normal	5.O	c,g,m	SA	UML	1	y	2	4	5	-	good
YES	36	MURUGESAN	Normal	6.O	c,g,m	GA	UML	0.5	y	2	3	4	-	good
YES	37	PALANIAMMAL	Normal	5.O	c,m	SA	UML	2	y				-	death
YES	38	VADIVEL	Elevated	4.O	c,m	EA	RPM	1	y	3	5	7	wound inf	treated

YES	39	RAMESH	Normal	5.O	cip,m	SA	UML	1	y	3	4	5	-	good
YES	40	RAVI	Normal	5.O	c,g,m	GA	UML	2	y	2	5	5	-	good
YES	41	THANGARAJ	Normal	5.O	c,g,m	EA	RPM	1	y	3	6	7		good
YES	42	RAJENDRAN	Normal	5.O	c,g,m	GA	UML	0.5	y	3	6	8	wound inf	treated
YES	43	ISSAC	Normal	4.O	c,g,m	GA	UML	1	y	2	3	4	-	good
YES	44	MOHAMED IBRAHIM	Normal	5.O	c,g,m	EA	UML	1	y	2	5	7	-	good
YES	45	ALAGAN	Normal	5.O	c,m	GA	UML	0.5	y	2	3	5	-	good
YES	46	SANGILI	Normal	6.O	c,m	GA	UML	0.5	y	3	5	6	-	good
YES	47	DEVASAGAYAM	Normal	4.O	c,g,m	GA	UML	1	y	3	6	7	-	good
YES	48	MURUGESAN	Normal	5.O	c,m	EA	UML	1	y	3	6	9	wound inf	treated
YES	49	GOVINDAN	Normal	5.O	c,g,m	GA	UML	1	y	2	4	5	-	good
YES	50	PAPPATHY	Normal	5.O	c,m	GA	UML	1	y	2	5	8	wound inf	treated
YES	51	SAGAPILLAI	Elevated	4.O	c,m		FD		n				sepsis	death
YES	52	SRIDHAR	Normal	5.O	cip,m	EA	UML	0.5	y	2	6	7	-	good
YES	53	SHERBUDEEN	Normal	6.O	c,m	GA	UML	0.5	y	2	4	6	-	good
YES	54	SALEEM	Normal	5.O	c,g,m	GA	UML	0.5	y	3	5	7	-	good
YES	55	RANJIT KUMAR	Normal	5.O	c,g,m	EA	UML	2	y	2	4	6	-	good
YES	56	RAMASWAMY	Normal	5.O	c,m	GA	RPM	1	y				shock	death
YES	57	ANNAVI	Normal	5.O	c,m	GA	UML	0.5	y	2	4	6	-	good
YES	58	RAJA	Normal	5.O	c,m	GA	UML	1	y	1	3	4	-	good
YES	59	SARADHA	Normal	5.O	cip,m	GA	UML	1	y	3	4	6	-	good
YES	60	POUNRAJ	Normal	4.O	c,g,m	GA	UML	0.5	y	3	5	7	-	good
YES	61	PONNUSAMY	Normal	5.O	c,g,m	GA	UML	0.5	y	2	4	8	wound inf	treated
YES	62	PERIANNAN	Normal	4.O	c,g,m	GA	UML	1	y	1	3	6	-	good
YES	63	PERIANNAN	Normal	5.O	,c,m		FD		n	3	5	9		good
YES	64	CHINNAMMAL	Normal	5.O	c,g,m	GA	UML	0.5	y	1	3	5	-	good
YES	65	MAHAMUNI	Normal	6.O	c,g,m	GA	UML	0.5	y	2	4	6	-	good
YES	66	SOMAKANDAN	Normal	5.O	c,m	GA	UML	1	y	2	4	6	-	good
YES	67	KARUPPAIAH	Normal	5.O	cip,m	GA	UML	1	y	3	5	7	-	good
YES	68	MARIMUTHU	Normal	5.O	c,m	GA	UML	1	y	3	5	8	wound inf	treated
YES	69	RAJAMMAL	Elevated	5.O	c.m	GA	RPM	2	y	2	4	6	-	death
YES	70	AMSAVALLI	Normal	4.O	c,m	GA	UML	0.5	y	3	5	7	-	good
YES	71	MANICKAM	Normal	6.O	c,g,m	GA	UML	0.5	y	3	4	5	-	good
YES	72	MATHIALAGAN	Normal	6.O	c,m	GA	UML	0.5	y	2	3	4	-	good
YES	73	MOHANASUNDARAM	Normal	5.O	c,g,m	GA	UML	1	y				shock	death
YES	74	NALLAMMAL	Normal	5.O	c,m	GA	UML	3	n	2	4	6	-	good
YES	75	HALIL	Normal	5.O	c,g,m	GA	UML	0.5	y	3	7	9	wound inf	treated
YES	76	GANESAN	Normal	5.O	cip,m	GA	UML	1	y	2	5	7	-	good
YES	77	MANICKAM	Normal	6.O	c,m	GA	UML	1	y	3	6	10	wound gap	sec.suture
YES	78	SHANMUGAVEL	Normal	5.O	c,m	GA	UML	2	y	2	5	6	-	good
YES	79	KAIRASI	Normal	5.O	c,gm	GA	UML	0.5	y				-	death

YES	80	MANIVEL	Normal	5.O	c,m	GA	UML	1	y	2	5	8	wound inf	treated
YES	81	CHETTY	Elevated	5.O	c,g,m	SA	UML	1	y	3	4	6	-	good
YES	82	MURUGAN	Normal	5.O	c,g,m	EA	UML	> 2	y	1	3	5	wound gap	sec.suture
YES	83	SAGANTHARAN	Normal	6.O	c,m	EA	UML	2	y	2	6	8	-	good
YES	84	CHINNARASAN	Normal	5.O	c,g,m	GA	UML	1	y	2	3	5	-	good
YES	85	GOVINDARAJU	Normal	5.O	c,gm	EA	UML	0.5	y	3	5	7	-	good
YES	86	MURUGAN	Normal	5.O	c,m	GA	RPM	0.5	y	2	4	9	burst abd	sec.suture
YES	87	JOHNPETER	Normal	5.O	c,m	SA	RPM	1	y	3	6	8	-	good
YES	88	LAWRENCE	Elevated	4.O	c,m	SA	UML	1.5CM	y				-	death
NO	89	RAJINI	Normal	4.O	cip,m	EA	UML	0.5CM	y	3	4	5	-	good
YES	90	KANDASWAMY	Normal	5.O	c,g,m	EA	UML	3	y	4	6	8	paralyticileus	treated
YES	91	SELVAM	Normal	5.O	c,g,m	EA	UML	1.0CM	y	1	3	4	-	good
YES	92	ANDIAPPAN	Normal	5.O	c,m	GA	UML	1	y	2	5	7	-	good
YES	93	RAJA	Normal	5.O	c,m	EA	UML	0.5	y	1	3	5	-	good
YES	94	SENTHILKUMAR	Normal	6.O	c,g,m	GA	RPM	0.5	y	2	5	6	-	good
YES	95	MURUGESAN	Normal	5.O	c,m	EA	UML	1	y	3	6	8	wound inf	treated
YES	96	VELU	Normal	5.O	c,m	SA	UML	1	y	3	3	5	-	good
YES	97	NAVAMANI	Normal	5.O	c,g,m	GA	UML	0.5CM	y	2	4	6	-	good
YES	98	FATHIMA	Normal	6.O	cip,m	EA	UML	2	y	3	5	5	-	good
YES	99	RAJI	Normal	5.O	c,g,m	EA	UML	1	y	2	4	5	-	good
YES	100	ANNADURAI	Normal	5.O	c,g,m	GA	UML	2	y				-	death
YES	101	CHINNAIYA	Normal	5.O	c,m	EA	UML	2	y	2	4	4	-	good
YES	102	ALAGAN	Normal	5.O	c,m	EA	RPM	0.5	y	3	5	6	-	good
YES	103	MOHAMED MEERAN	Normal	5.O	c,g,m	SA	UML	2.0CM	y	2	4	5	-	good
YES	104	MANICKAM	Normal	5.O	c,g,m	SA	UML	0.5CM	y	4	5	6	wound inf	treated
YES	105	SARAVANAN	Normal	4.O	c,m	EA	UML	1.0CM	y	4	5	5	paralyticileus	treated
YES	106	PERIASAMY	Normal	4.O	c,m	EA	UML	1.0CM	y	3	8	10	wound gap	sec.suture
YES	107	USMAN	Normal	5.O	c.g,m	GA	RPM	1	y	2	4	5	-	good
YES	108	KANAGARAJ	Elevated	6.O	cip,m	GA	UML	1.5	y	2	3	5	-	good
YES	109	DURAIRAJ	Normal	6.O	c,m	EA	UML	1	y	3	4	5	-	good
YES	110	VARADARAJ	Normal	5.O	c,g,m	EA	UML	1	y	2	5	6	-	good
YES	111	RAJAPANDIAN	Normal	5.O	c,g,m	GA	UML	1	y	3	5	5	-	good
YES	112	SATHYA	Normal	5.O	c,m	SA	UML	0.5CM	y	4	5	6	paralyticileus	good
YES	113	KOLANCHI	Normal	4.O	c,m	GA	UML	1.0CM	y	2	5	6	-	good
YES	114	MURUGESAN	Normal	5.O	c,g,m	EA	UML	1	y	3	5	5	-	good
YES	115	ANDIAPPAN	Normal	5.O	c,m	GA	UML	2.0CM	y	2	4	5	wound inf	good
YES	116	IYYAMMAL	Normal	5.O	c,g,m	EA	UML	1	y	3	5	6	-	good
YES	117	MAHENDRAN	Normal	5.O	cip,m	GA	UML	1	y	3	4	4	-	good
YES	118	ARUMUGAM	Normal	5.O	c,g,m	EA	UML	1	y	2	5	5	-	good
YES	119	MUNIAPPAN	Normal	6.O	c,g,m	EA	RPM	2.0CM	y	3	7	7	-	good
YES	120	KOLLIMALAI	Normal	5.O	c,g,m	GA	UML	1	y	2	4	5	wound inf	good

YES	121	GOVINDARAJU	Normal	5.O	cip,m		FD		n				-	death
YES	122	MOOKAIYAN	Normal	5.O	c,g,m	SA	UML	1	y	3	5	5	-	good
YES	123	VEERAN	Normal	5.O	c,m	EA	UML	0.5CM	y	3	11	14	pelvic collec	good
NO	124	LAKSHMANAN	Normal	6.O	c,m	SA	UML	1	y	3	5	5	-	good
YES	125	MOOKAIYAN	Elevated	5.O	c,m	EA	UML	1	y	3	6		septicaemia	death
YES	126	MUTHUKANNAN	Normal	5.O	c,g,m		FD		n				-	death
YES	127	SURESH	Normal	5.O	c,g,m	EA	UML	0.5	y	3	5	5	-	good
YES	128	LATHA	Normal	6.O	c,g,m	SA	UML	1	y	2	4	4	-	good
YES	129	RAMESH	Normal	5.O	c,m	EA	UML	2	y	2	4	5	-	good
YES	130	VELUSAMY	Normal	5.O	c,m		UML	0.5CM	y	6	7	8	paralyticileus	good
YES	131	SHANTHA	Normal	5.O	c,g,m	EA	UML	2	y	2	4	5	-	good
YES	132	ALAMUTHU	Normal	5.O	c,m	SA	UML	0.5	y	3	5	5	-	good
YES	133	JEBAMALAI	Normal	5.O	cip,m	EA	UML	1.5	y				-	death
YES	134	PAPPATHY	Normal	5.O	c,g,m	GA	UML	0.5CM	y	2	2	5	-	good
YES	135	ANUMANTHAN	Normal	5.O	c,g,m	SA	UML	2	y	3	5	5	-	good
YES	136	JOSEPH	Elevated	6.O	c,m	GA	UML	1.0CM	y	5	5	7	pleural eff	good
YES	137	PERIASAMY	Normal	5.O	c,m	EA	RPM	0.5	y	3	5	5	pleural eff	good
YES	138	KALIYAN	Normal	5.O	c,g,m	EA	UML	1	y	3	5	5	-	good
YES	139	AROCKIAM	Normal	5.O	c,g,m	GA	RPM	1.0CM	y	3	5	5	-	good
YES	140	YASAR ARAFAT	Normal	6.O	c,g,m	SA	UML	2	y	2	4	4	-	good
YES	141	BAGYARAJ	Normal	5.O	c,m	EA	UML	0.5	y	2	4	5	-	good
YES	142	MADHAN	Normal	5.O	c,g,m	SA	UML	1.5	y	3	5	5	-	good
YES	143	VELACHI	Normal	5.O	c,m	EA	UML	2	y	3	5	5	-	good
YES	144	PALANI	Normal	5.O	cip,m	SA	UML	1	y	3	5	5	-	good
YES	145	SHANKAR	Normal	5.O	c,g,m	GA	UML	0.5	y	2	4	5	-	good
YES	146	ALAGAR	Normal	5.O	c,g,m	EA	RPM	1.5CM	y	4	6	7	paralyticileus	good
YES	147	KOWSALYA	Normal	5.O	c,g,m	SA	UML	0.5	y	2	4	5	-	good
YES	148	CHANRA	Normal	5.O	c,m	EA	UML	2	y	3	5	5	-	good
YES	149	THANGARAJ	Normal	5.O	c,m	GA	RPM	1.5CM	y	2	4	4	-	good
YES	150	KARNAN	Normal	5.O	c,g,m	SA	RPM	1.0CM	y	3	4	4	-	good
YES	151	MARIAPPAN	Normal	6.O	c,g,m	GA	UML	1.0CM	y	5	6	7	pelvic absce	good
YES	152	RATHINAM	Normal	5.O	c,m	EA	UML	2	y	3	5	5		good
YES	153	PITCHAI	Normal	5.O	c,g,m	GA	UML	1.0CM	y	3	5	7	-	good
YES	154	THIAGARAJAN	Normal	5.O	c,g,m	GA	RPM	2	y	2	5	7	wound inf	good
YES	155	CHANDRASEKARAN	Normal	5.O	cip,m	EA	UML	0.5	y	3	5	5	-	good
YES	156	KANNAIYAN	Normal	5.O	c.g,m	SA	UML	1.5	y	2	4	5	-	good
YES	157	HALIL	Normal	6.O	c,m	GA	UML	2	y	4	5	10	wound inf	good
YES	158	SHANKAR	Normal	5.O	c,g,m		FD		n				-	death
YES	159	SENTHIL	Normal	5.O	c,g,m	SA	RPM	1.0CM	y	3	4	5	-	good
YES	160	PONNUSAMY	Normal	5.O	c,m	SA	RPM	1.0CM	y	2	4	5	-	good